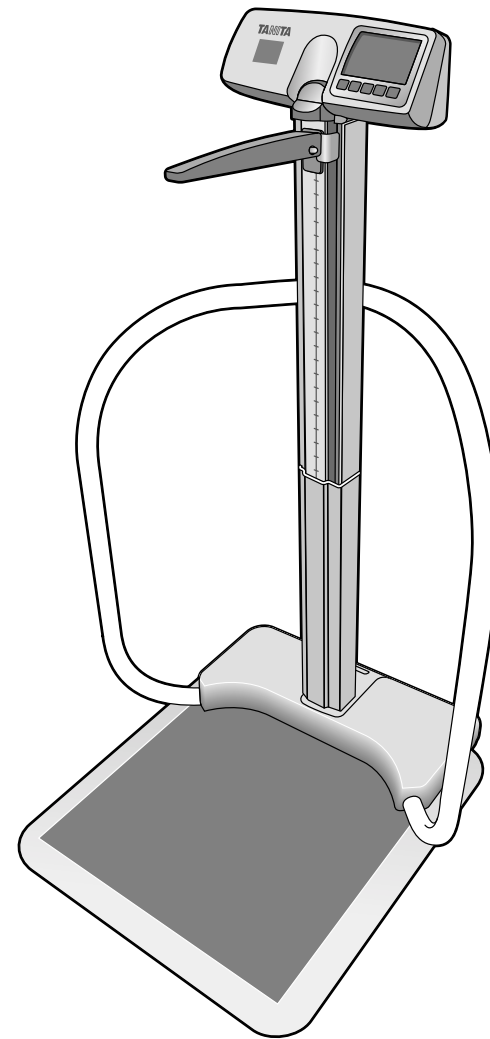


HANDRAIL SCALE PH-740

INSTRUCTION MANUAL



⚠ Please keep this manual in a safe place, and make sure it is readily available whenever necessary.
Please use this product only after carefully reading this manual and fully understanding its contents.

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2. Safety Notes

Caution Symbols

For optimum performance and safety, please familiarize yourself with the Caution Symbols below. These symbols are designed to alert the user to potential hazards when using this equipment. Ignoring these Caution Symbols may result in serious injury, or damage to the product. Please be sure to review before proceeding with the INSTRUCTION MANUAL.

WARNING This symbol indicates the possibility of serious injury if the product is mishandled or instructions are ignored.

CAUTION This symbol indicates the possibility of physical injury or equipment damage if instructions are ignored.

This symbol indicates general precautions that should be taken when using this product.

WARNING

- Inserting and Removing the AC adapter to reduce the risk of electric shock or product damage, never insert or remove the AC adapter with wet hands.
- Do not under any circumstances dismantle or alter the device, as this could result in electric shock or injury as well as adversely affecting the precision of measurement.
- To prevent fire hazard use only a correctly wired (120V AC) outlet, and do not use a multiple outlet extension cable.

CAUTION

- Please make sure you place the scale on a level and stable surface. If the equipment is used when the scale is unstable, because not all feet are on the surface, there may be a risk of injury or inaccurate measurement. Measurement may be inaccurate when the scale is placed on a thick-pile rug or carpet.
- Never jump on the scale, there may be a risk of injury and malfunction of the equipment.
- Do not hang on the handrail.
- The equipment must be used with the included AC adapter only.
- Do not insert or remove the AC plug by the cable.
- Do not place a finger into any gap or any hole of the equipment. You may be injured.
- Please use caution when adjusting the height rod to prevent injury.
- Please return the height rod to the storage position after completion of measurement.
- Please do not touch or lean on the height rod or the display during weighing as this will reduce accuracy.

Maintenance

This is a precision manufactured and accurately calibrated product. Please observe the following instructions.

- If the equipment is moved to a place with a temperature difference of 18°F/10°C or more, leave it for at least two (2) hours before use.
- Avoid subjecting the equipment to excessive shocks or vibrations.
- Never disassemble or adjust the equipment, as this may cause malfunctions.
- When not in use for an extended time, unplug the AC adapter from the outlet.
- Do not wipe the equipment with corrosive chemicals (benzene, acetone, etc.). Please use a neutral detergent to clean the equipment.
- Do not use cellular phones or microwave therapy equipment near this equipment.

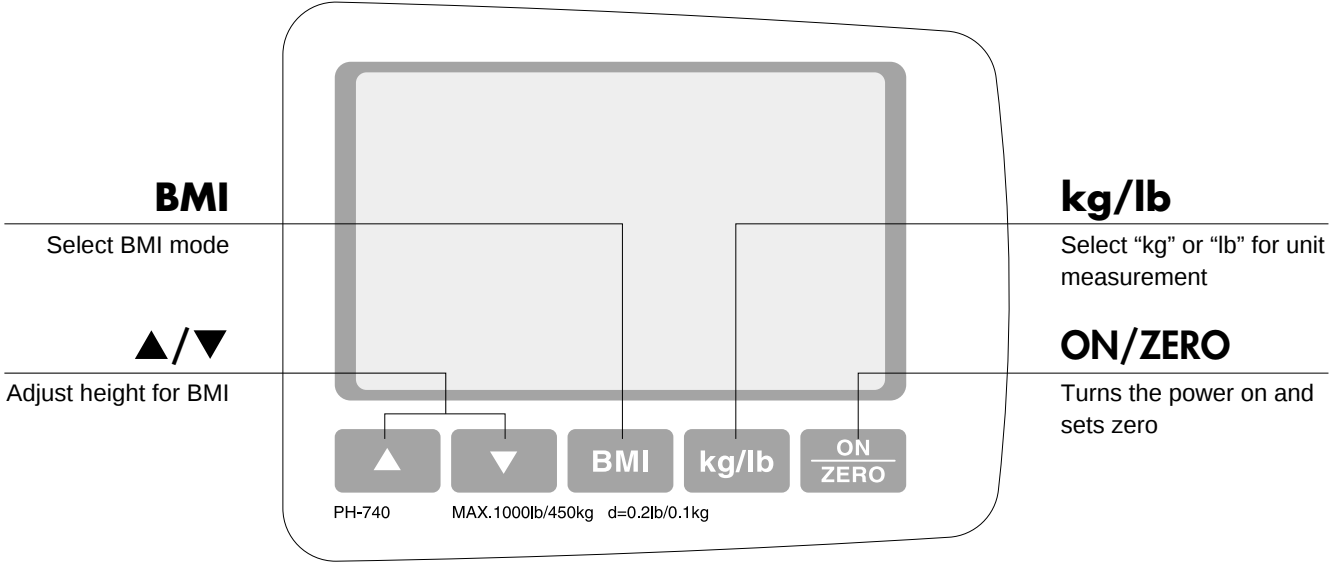
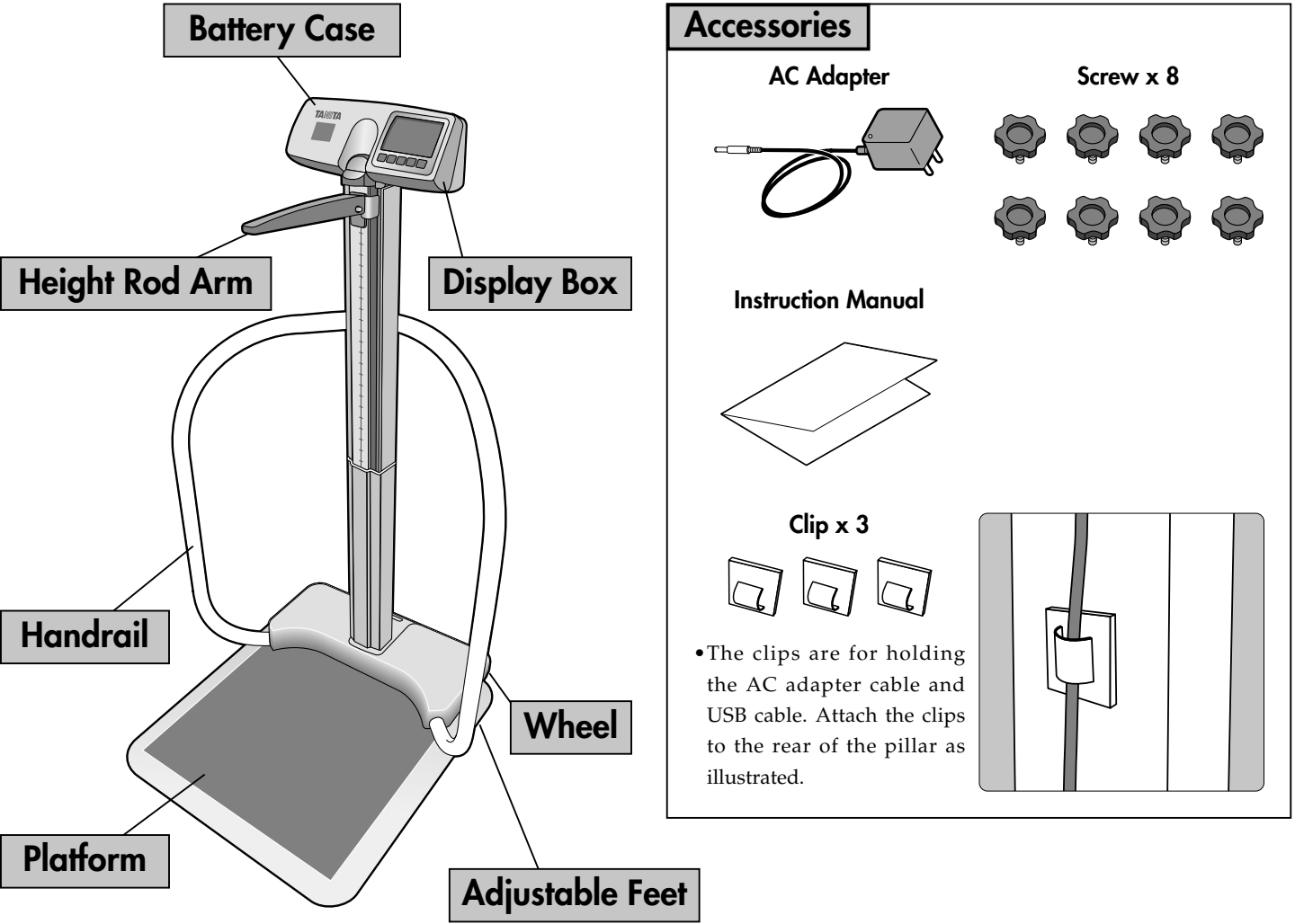
It may not measure correctly due to equipment malfunction.

- When disposing of this equipment, please do so in accordance with the prevailing regulations in your country, state and city.
- If an unauthorized person attempts to disassemble or repair any part of the equipment, the warranty will become invalid. When the unit malfunctions, please consult your nearest Tanita sales office or agent.

3. Based on NIH/WHO BMI Guidelines

Under Weight		BMI < 18.5
Normal Range		18.5 ≤ BMI < 25
Pre obese		25 ≤ BMI < 30
Obese	CLASS I	30 ≤ BMI < 35
Obese	CLASS II	35 ≤ BMI < 40
Obese	CLASS III	BMI ≥ 40

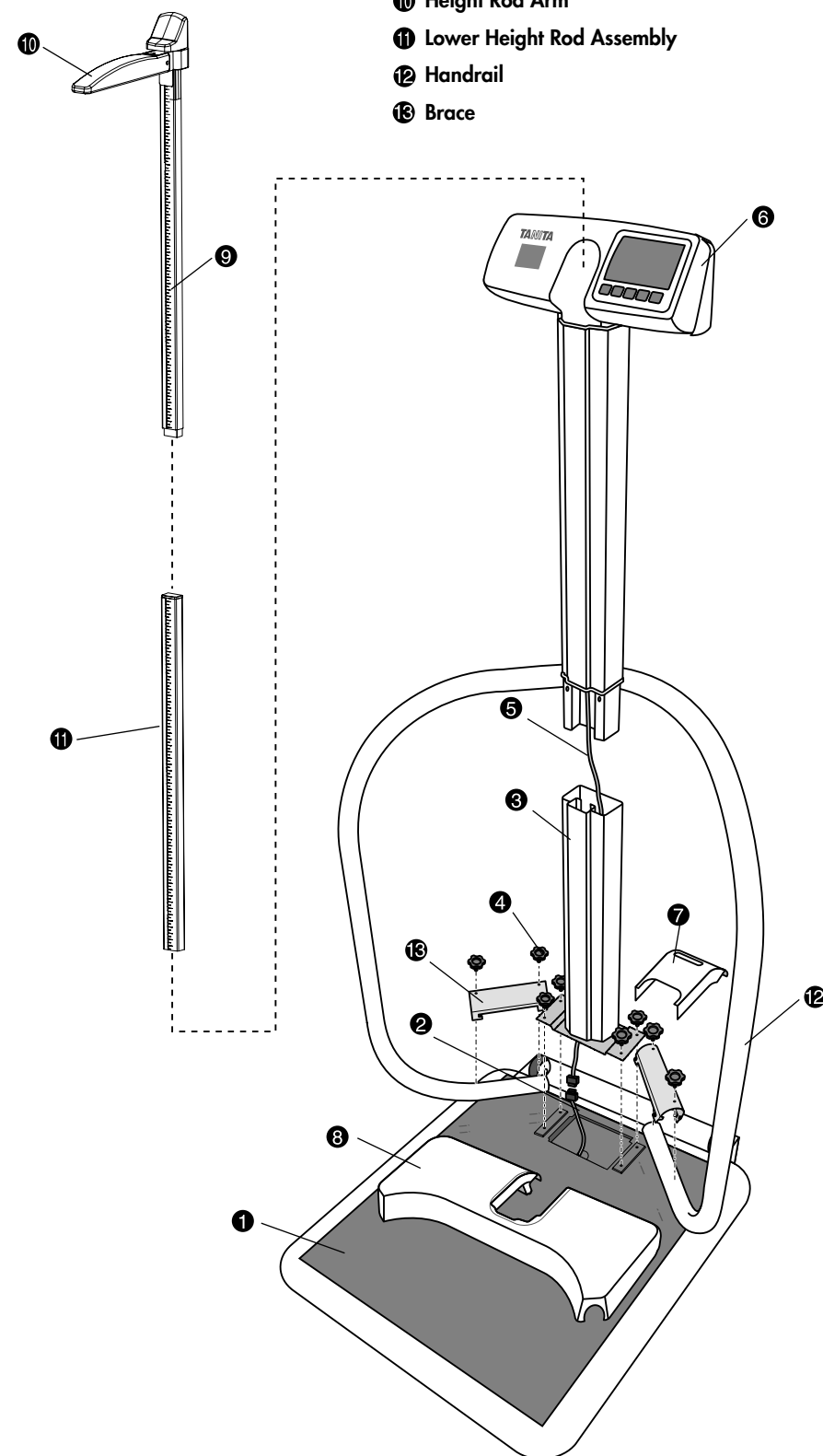
4. Part Names & Accessories



5. Assembly Instructions

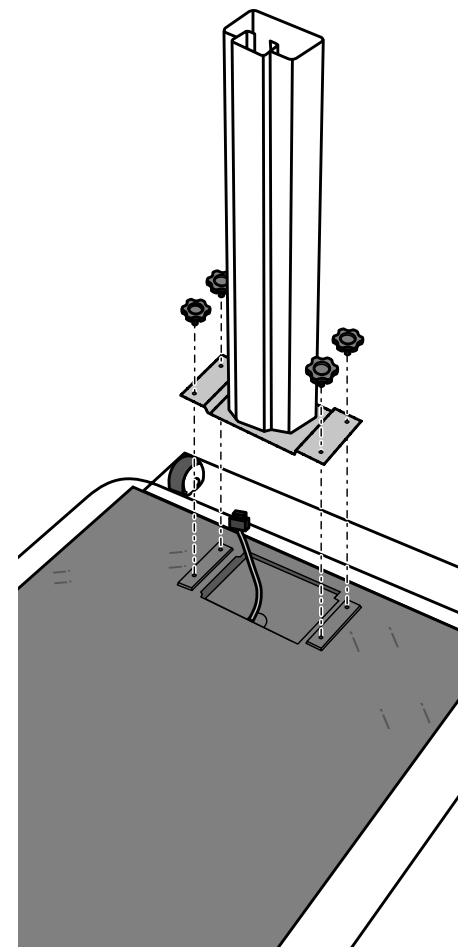
1. List of Components

- ① Base (fully assembled and pre-wired to display assembly)
- ② Cable (Base side)
- ③ Lower Pillar Assembly
- ④ Screw
- ⑤ Cable (Top Head Display Assembly Side)
- ⑥ Top Head Display Assembly (fully assembled and pre-wired to base)
- ⑦ Back Cover
- ⑧ Front Cover
- ⑨ Top Height Rod Assembly (fully assembled with pivoting height measuring lever)
- ⑩ Height Rod Arm
- ⑪ Lower Height Rod Assembly
- ⑫ Handrail
- ⑬ Brace

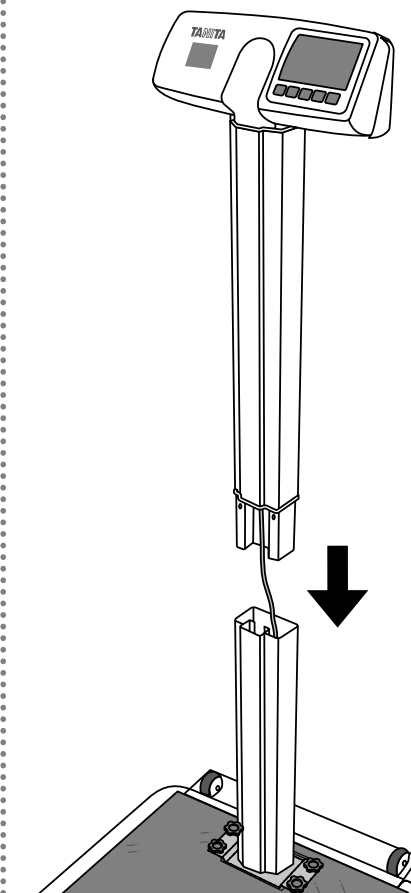


2. Assembly

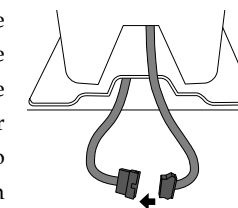
- 1) Install the Lower Pillar Assembly into the Base using the four (4) Screws while carefully avoiding pinching the cable.
*Tighten the screws completely.



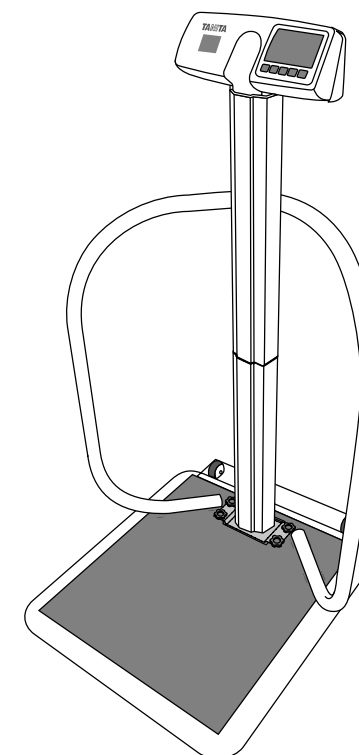
- 2) Assemble the Top Head Display into the Lower Pillar assembly while carefully inserting the cable into Lower Pillar assembly and extending it the full length of the Lower Pillar.



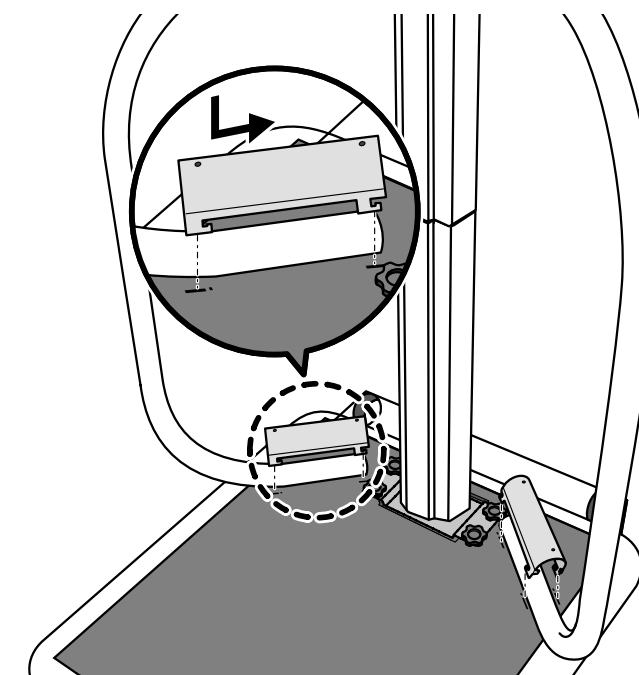
- 3) Connect the Cable from the bottom of the lower pillar assembly to the cable on the base.



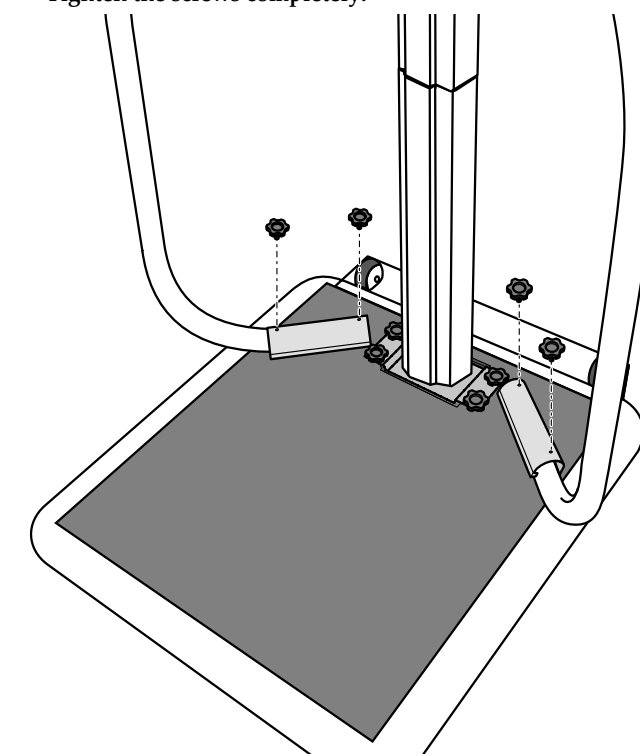
- 4) Place the Handrail on the Base.



- 5) Insert the tabs of the brace into the slot. Putting your weight on the handrail to adjust its position will facilitate insertion of the brace into the slot.
Slide the brace completely to the end (Position ▲ mark).



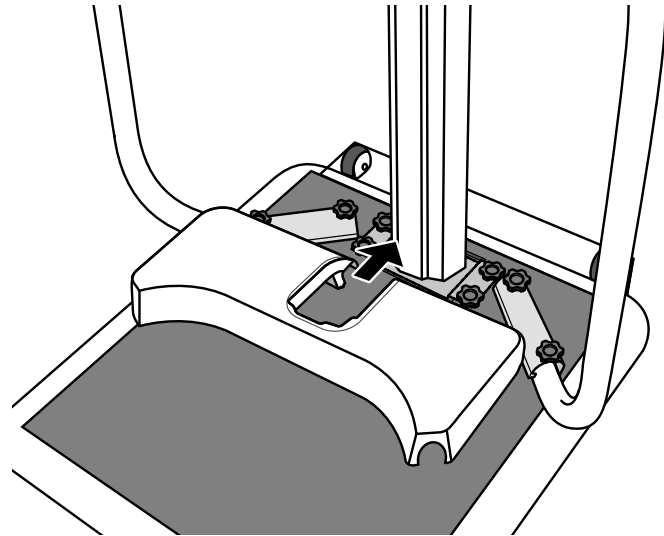
- 6) Clamp the handrail to the brace using the four screws.
*Tighten the screws completely.



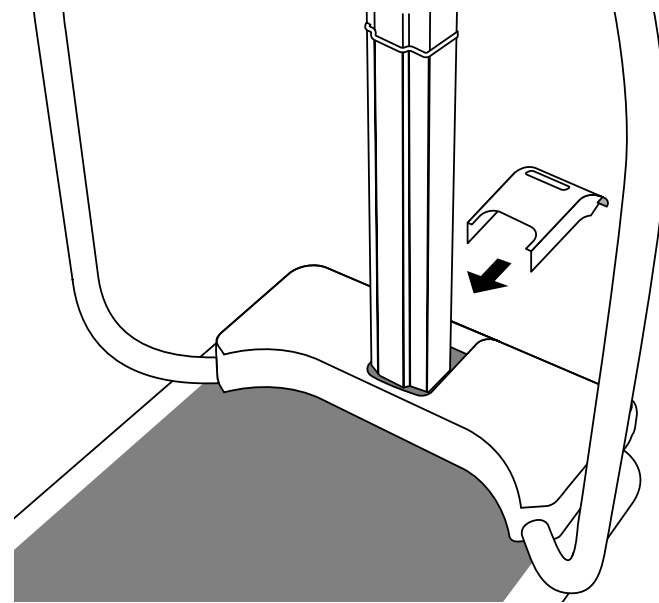
5. Assembly Instructions (continued)

- 7) Place the Front Cover over the screws and fix it by inserting its pins into the holes.

*Be careful not to pinch the cable while performing this operation.



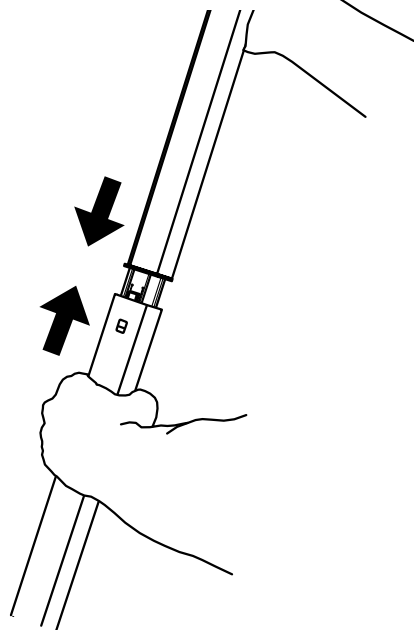
- 8) Insert the Back Cover.



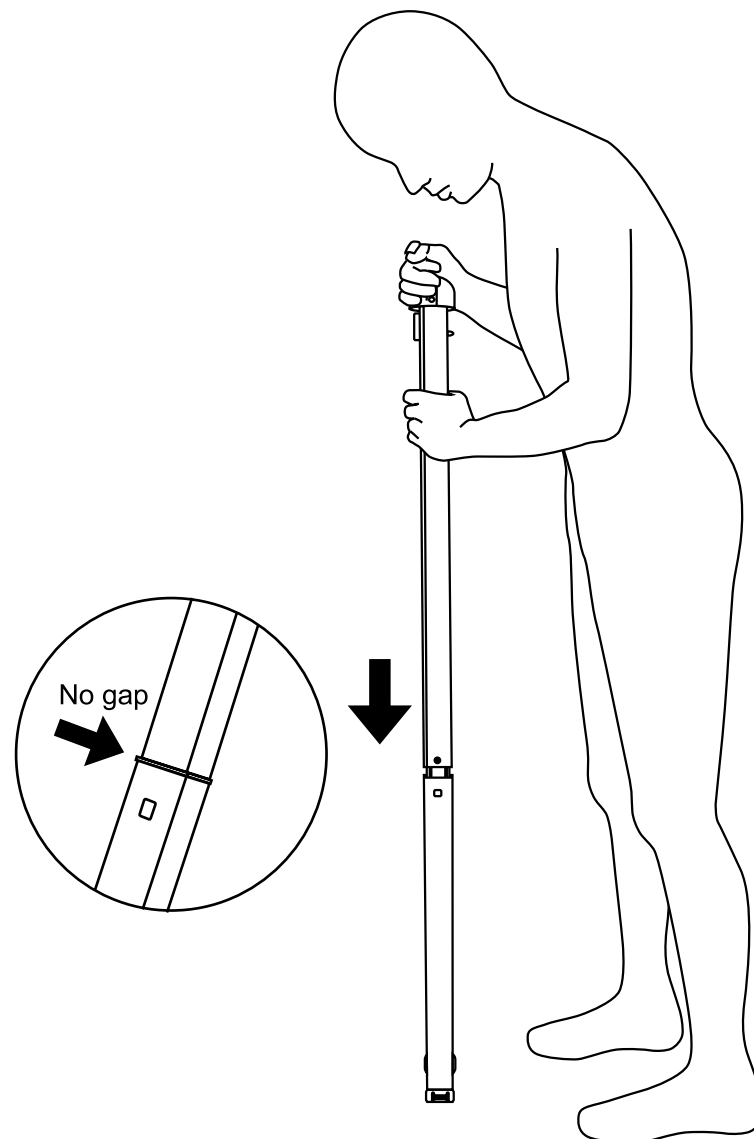
- 9) Connect the top Height Rod Assembly and Lower Height Rod Assembly together.

- ① Connect both pillars completely.

IF unable to connect, go to step 2.



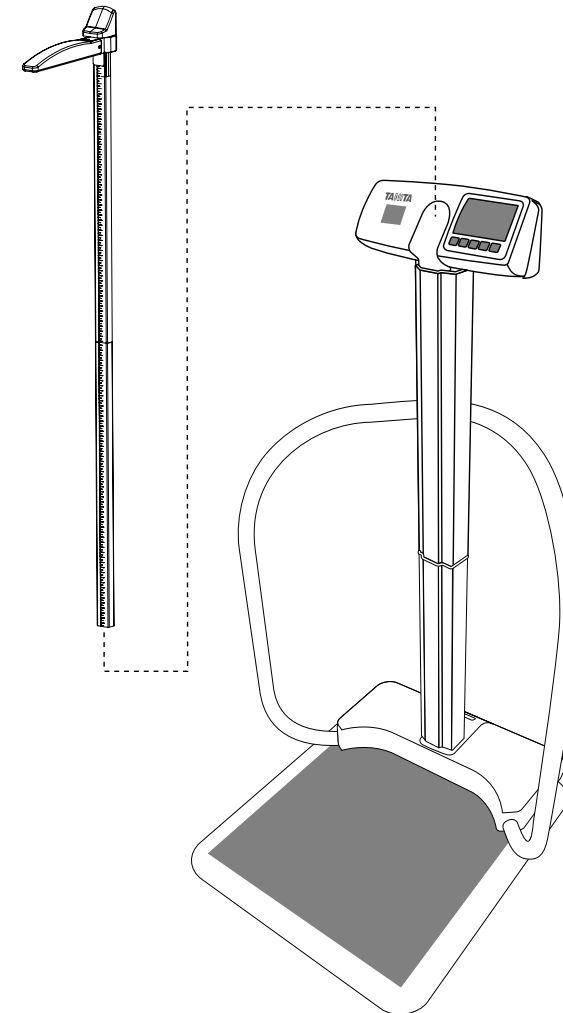
- ② Using the floor, push straight down on the upper pillar into the lower pillar.



⚠ CAUTION

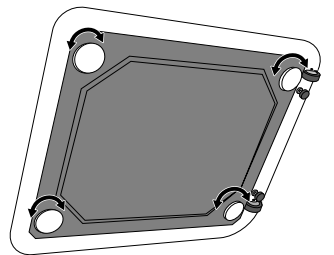
- Do not grip the sliding height bar while pushing down on the upper pillar.
- Do not use a slippery floor surface.
- Use caution to avoid pinching fingers during assembly.

- 10) Insert the Hight Rod Assembly into the Pillar.

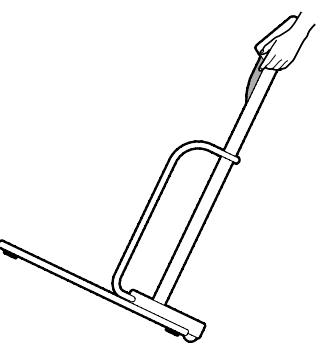


Note: Place the scale on a hard, flat surface where there is minimal vibration to ensure safe and accurate measurement. If used on an uneven surface, feet may be adjusted to ensure a level and stable platform.

* Feet adjustment should be performed by two persons or more.



Note: To move the scale, hold the Top Head Display to pivot the scale on its wheels and move it tilted.



6. Operation by AC adapter

AC adapter is much preferable when the scale will be used continuously.

- Insert the AC adapter jack into the AC adapter inlet on the back side of display.
- Plug the AC adapter into the outlet.

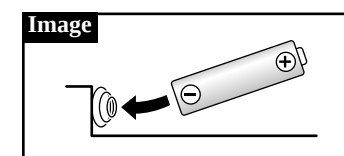
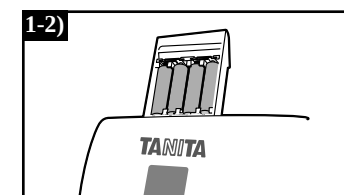
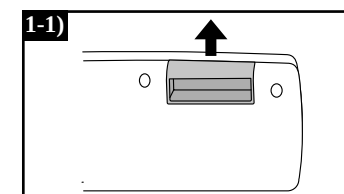


WARNING • In order to reduce the risk of electric shock, never insert or remove the power code with wet hands.



CAUTION • This equipment must be used with the included AC adapter only.

7. Operation by batteries



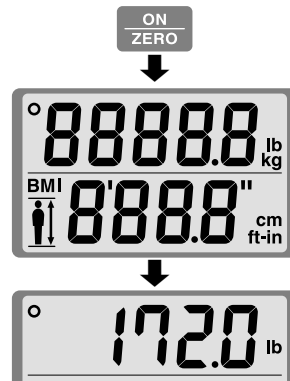
- When the batteries start to run low, "Lo" appears on the display panel as a warning.
- Pull up the battery case which located on top of display. All batteries should be immediately replaced with new ones at the same time.
 - Do not use a combination of alkaline and manganese batteries, as such an arrangement may result in equipment failure.
 - Rechargeable batteries are NOT recommended use.
- Push down the battery case completely.

* Insert new batteries such that the negative terminals of the batteries are pushed up against the coils within the battery case.

8. Operation

1. Standard Weighing Procedures

- 1) Turn on the power by pressing the **ON ZERO** key.



- 2) After all the segments flash, [0.0lb/0.0kg] is displayed.

- 3) The person to be weighed should still in the middle of the platform.



- 4) The weight will be locked-in and displayed on the display. "○ (Hold)" sign will appear in the upper left corner of the display.

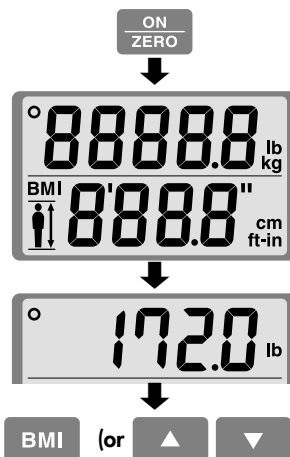
When the scale is connected to an external device, weight data will be exported at this time.

- 5) The scale will automatically shut off in 30 seconds.

Note: • Do not press the **ON ZERO** key while standing on the scale, as accurate measurement will not be possible.

2. BMI Weighing

- 1) Turn on the power by pressing the **ON ZERO** key.



- 2) After all the segments flash, [0.0lb/0.0kg] is displayed.

- 3) The person to be weighed should still in the middle of the platform.

- 4) The weight will be locked-in and displayed on the display. "○ (Hold)" sign will appear in the upper left corner of the display.

- 5) Press the **BMI** key (or **▲** **▼**). The default height [5ft7.0in/170cm] will be displayed.

- 6) Set the height with the **▲** **▼** key.

- 7) Once the height and weight have been established, press the **BMI** key.

The weight and BMI calculation will then be displayed.

When the scale is connecting to an external device, weight, height and BMI data will be exported at this time.

- 8) The scale will automatically shut off in 30 seconds.

The setting of height for BMI is can be accomplished in any one of the following means by pressing the

BMI key (or **▲** **▼**).

• Before stepping on the scale.

• After pressing the **ON ZERO** key.

• After weight measurement while the weight result remains on the display.

3. Step on Function

The scale will turn on automatically when the user steps onto the platform.

Note:

• If the weight is less than 22lb/10kg, the "Step-On" function will not work.

• If person less than 22lb/10kg, press the **ON ZERO** key manually to turn on the scale.

• If an item is placed on the scale while it is powered off, accurate measurement will not be possible and the Step on Function may not operate properly.

• When measurement has been started using the Step on Function, installing or removing the AC adapter, cable or batteries while power is off may prevent accurate measurement. Perform measurement after having pressed the **ON ZERO** key and turned off the Step on Function.

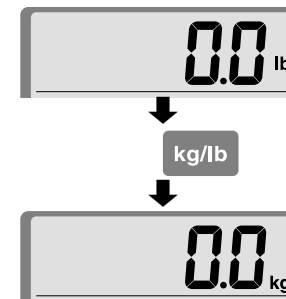
4. Changing Measurement Units

This function is used to change the measurement units on the display.

e.g. When change the unit "lb" to "kg".

Press the **kg/lb** key.

The measure shifts from "lb" to "kg" and the measurement units change.



9. Measuring height procedure

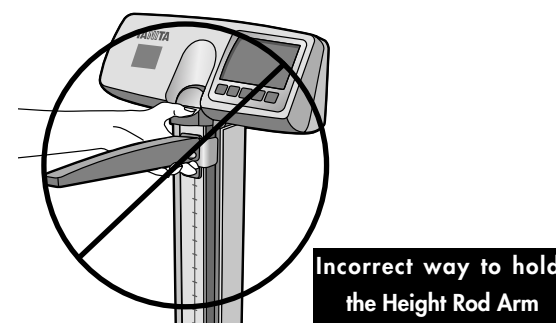
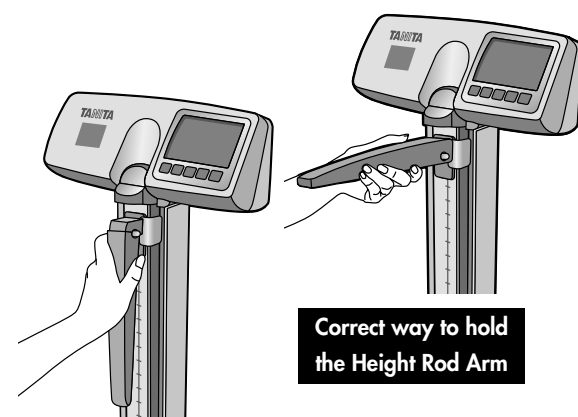
The user should step on the platform without wearing shoes for accurate measurement.

Always have someone assist the user for accurate measurement.

- 1) **Adjust the Height Rod Arm position before the user steps on the platform. Place hand on the Height Rod Arm.**

If the subject is taller than 48" / 120 cm, pull the Height Rod Sliding Block and Height Rod Arm at the same time upward so that the arm is positioned higher than the subject's head.

If the subject is shorter than 48" / 120 cm, move the Height Rod Arm down.



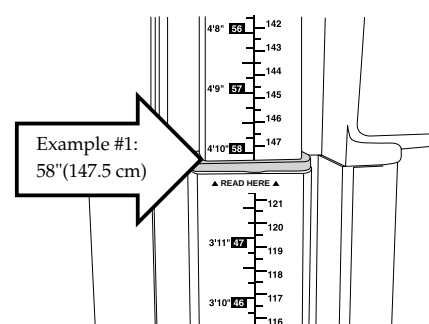
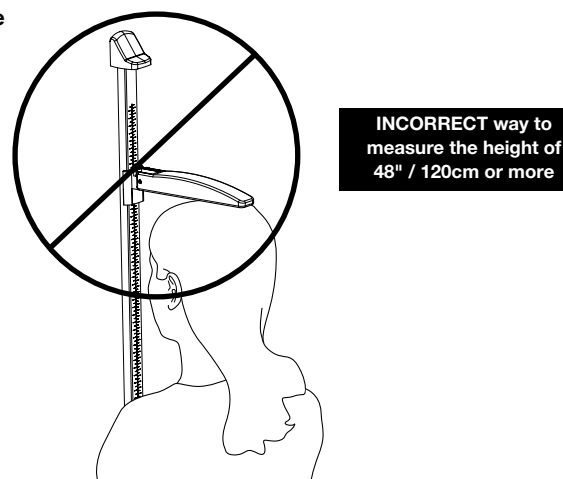
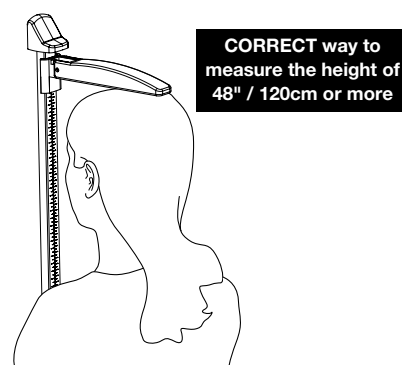
To avoid danger of breaking or coming loose, you must hold the height rod arm securely.

- 2) **Gently lower the Height Rod Arm until the Height Rod Arm touches the very top of the user's head.**

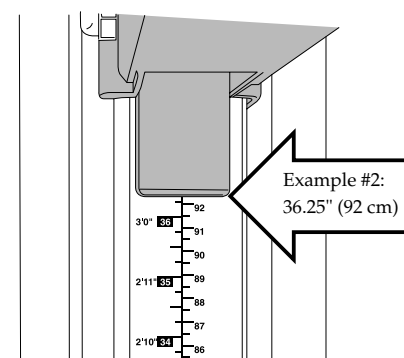
- 3) **Read the measurement.**

If the subject is taller than 48" / 120 cm, read the number just above the top of the Upper Pillar Column (see example #1).

If the subject is shorter than 48" / 120cm, read the number below the Height Rod Arm (see example #2).



Reading the height measurement of 48" / 120cm or MORE



Reading the height measurement of 48" / 120cm or LESS

10. Output data format

This section covers the exporting of data from the scale to an external device (e.g. PC) using a RS-232C and USB compliant signal.



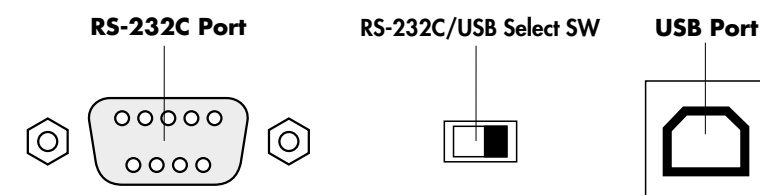
- RS-232C and USB interface are for data OUTPUT ONLY!
- This scale is not capable of receiving instructions from an external device.

Specifications

Communications standard	EIA RS-232C compatible	USB
Communications method	Asynchronous transaction	
Signal speed	9600 baud	
Data bit length	8 bits	
Parity	None	
Stop bit	1 bit	
Terminator	CR+LF	

Note:

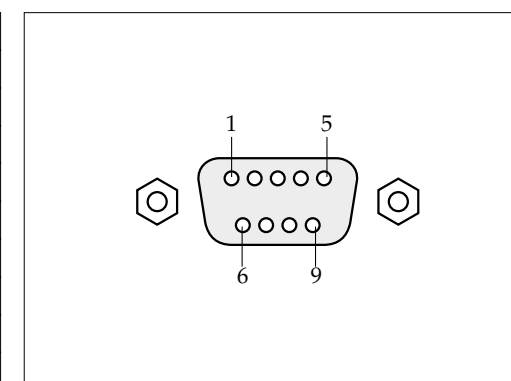
- An RS-232C connector (D sub 9-pin female) and USB connector (B-type 4-pin female) are located on the back of the display unit.
- Please provide your own cables as necessary as none are included.
RS-232C :Straight D sub 9-pin (male) – D sub 9-pin (female)
USB :A-type 4-pin (male) – B-type 4-pin (male)
- Select Switch : Please select which interface you would like to use



Caution If you want to use the USB output, you must install the necessary driver onto your PC, available to download from <http://www.tanita.com>.

Signal Line Name and Connection Method

Terminal no.	Signal name
1	
2	TXD
3	RXD
4	
5	GND
6	
7	
8	
9	

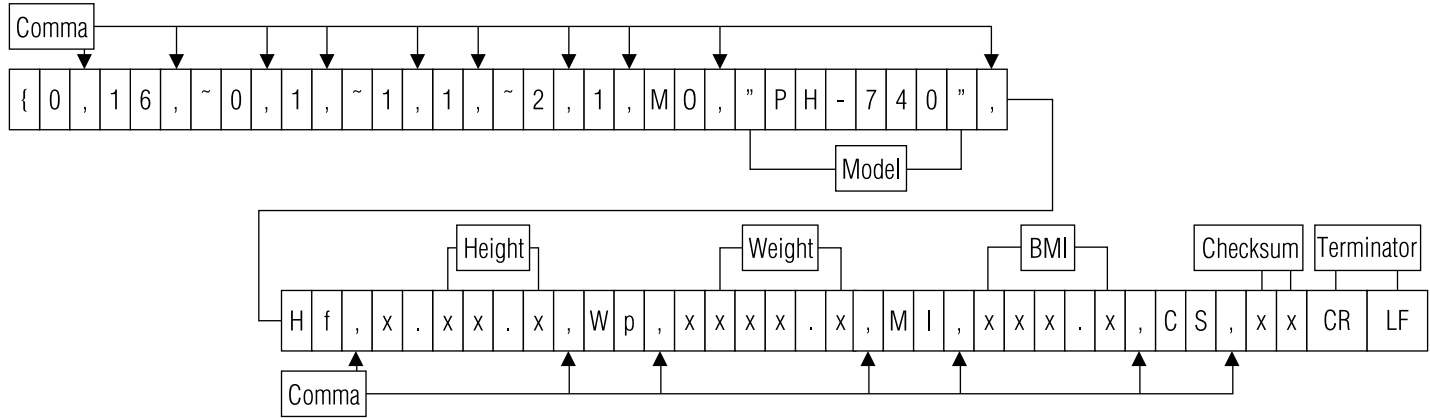


Output data

Name of item	Header		Output data (ASCII code)		Pattern	
	kg mode	lb mode			BMI mode	Weight mode
Control data	{0		Fix to 16	2 Bytes fixed	✓	✓
Control data	~0		Fix to 1	1 Byte fixed	✓	✓
Control data	~1		Fix to 1	1 Byte fixed	✓	—
Control data	~2		Fix to 1	1 Byte fixed	✓	—
Model	MO		"PH-740"	8 Byte fixed	✓	✓
Height	Hm	Hf	xxx.x x.xx.x	4 – 6 bytes	✓	—
Weight	Wk	Wp	xxx.x xxxx.x	3 – 6 bytes	✓	✓
BMI	MI		xxx.x	3 – 5 bytes	✓	—
Checksum	CS		xx	2 Bytes fixed	✓	✓

- Note:**
- The data are divided with commas (,) for each data.
 - The terminator (end of the data) is CR (ASCII code 0DH), LF (ASCII code 0AH).
 - The control data for the items 1 – 4 are for expansion. They are not used presently so the receiving side can ignore them.
 - When the measurement unit is select the "lb",all the height data is converted into “ft-in” and it is output.
 - Because of its specifications, the scale will output an irrelevant signal approximately 0.1 second after data output. Make sure you ignore this signal and do not import it.

[Output example (in the case to lb unit)]



11. Specifications

Model		PH-740	
Weight Measurement	Measurement System		Strain Gauge Load Cell
	Maximum Capacity / Minimum Graduation		1000lb / 0.2lb 450kg / 0.1kg
	Range of Weight	Standard	0 - 1000lb 0 - 450kg
		Step on	22 - 1000lb 10 - 450kg
Height Measurement	Measurement System		Mechanical Height Rod
	Range of Height		2ft 1in – 7ft 64cm – 214cm
Input Items	Height		2ft – 8ft 2in 0.5in increment 61cm- 250cm 1cm increments
Output Items	Display	Weight	1000 lb / 0.2lb 450kg / 0.1kg
		Height	2ft – 8ft 2in 0.5in increment 61cm- 250cm 1cm increments
		BMI	0.1 increments
Size	Overall		D31.5 x W31.9 x H53.8in D800 x W810 x H1366mm
	Platform		D22.5 x W26.1 x H1.4in D572 x W664 x H36mm
Display		Upper 5Digits and Lower 4Digits LCD Height of numerals 1in / 24mm	
Output Data Interface		RS-232C (D sub 9-pin Female connector) USB (B-type)	
Power Source		AC adapter (included) Center Minus	
Power Consumption		0.3 W max.	
Temperature Range of usage		32°F - 95°F	0°C - 35°C
Weight of Equipment		64.0lb (without batteries)	29.0kg (without batteries)
Battery Life		Approximately 100hours of continuous use when using LR6 (AA Alkaline battery)	

12. Troubleshooting

If you are concerned that the scale may not be functioning correctly, please check the following point before requesting repairs.

Problem	Check Points
Nothing is displayed when  key is pressed.	•Check the connection of the AC adapter jack to the AC adapter inlet, and the connection of the AC adapter plug to the outlet. •The batteries may be weak. Try an AC adapter or new LR6 (AA) batteries. •Check the terminals of the batteries for contamination
“Lo” is displayed.	The batteries are running out. Please replace them immediately or use the AC adapter.
Measurement is not accurate.	•Check that all feet of scale are stable and on a hard flat surface, carpeting depth should be kept to a minimum. •After having stepped down from the scale and pressed the  key, perform the measurement again. •Accurate measurement may be impossible if the product is used where there is excessive vibration. •Try using the product in a different place.
The weight does not stabilize	•Are you moving during measurement? •Is the measured weight within the range of weight measurement? •During measurement, are you touching any part other than the handrail, such as the height rod arm, switch, or another part?
“OL” is displayed	•The range of weight (1000lb/450kg) is exceeded.
“-OL” is displayed	•Was anything placed on the scale before measurement?
“Error” is displayed	•Check whether the cable between the platform and display is disconnected, cut, or pinched.
The Top Head Display Assembly is loose.	•Retighten the four screws that attach the base to the Lower Pillar Assembly.



USA and Canada

Federal Communications Commission and Canadian ICES Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and Canadian ICES-003. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Tanita Corporation may void the user's authority to operate the equipment.

TANITA®

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