MARSDEN

Marsden M-300 User Manual

Please take time to read these instructions before starting to use the scale.

Contents

Introduction

Thank you for purchasing a Marsden professional medical scale. This is a precision Class III weighing instrument and considerate use will result in many years of accurate weighing. The scale has a maximum load capacity of 15kg which must not be exceeded.

Product Specification

Model	M-300
Accuracy Class	Class III
Capacity/Division	15kg x 2g<6kg>5g
Weight of Scale	Approximately 3kg
Units of Measure	Kg
Function Keys	ON/OFF, HOLD, TARE
Typical Stabilisation Time	5-6 Seconds
Operating Temperature	5 to 35˚C
Power Supply	2 x 1.5V AA batteries / 12V 1A AC Adaptor
Display	2.5cm LCD display with 5 active digits
Warranty Period	8 Years

If the device is under legal metrology control (self-verification), Marsden will provide notified body no. 0122 on the device.

Safety Instructions

Before putting the device into use, please read with care the information given in this user manual, which contains important instructions for proper installation, use and maintenance of the device.

Marsden and/or the manufacturer shall not be liable for damages arising from failure to heed the following instructions:

- When using electrical components under increased safety requirements, always comply with appropriate regulations.
- Inappropriate installation/use will render the warranty null and void.
- Ensure the voltage marked on the power supply unit matches your mains supply.
- This device is designed for use indoors only.
- Observe the permissible ambient temperatures for use.
- The device meets the requirements for electromagnetic compatibility. Do not exceed the maximum values specified in the applicable standards.
- Batteries should be kept away from small children. If swallowed, promptly seek urgent medical assistance.

If you have any problems with this scale, please contact Marsden/your local dealer/your service partner.

If a serious incident occurs in relation to this device, it should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

Cleaning

- We recommend using alcohol-based wipes or similar when cleaning the scale.
- Please do not use corrosive liquids, large amounts of water or high-pressure washers.
- Always disconnect the scale from the mains power supply before cleaning.

Maintenance

- The scale does not require any routine maintenance. However, we recommend checking the scale’s accuracy at regular intervals. If any inaccuracies occur, please contact your local dealer or service partner.
- If you are in the UK, service contracts are available from Marsden to keep your scale accurate and reliable for longer. Call 01709 364296 for more information.

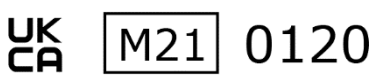
Disposing of the Scale

- This product should not be treated as regular household waste but should be handed in to an electrical/electronic equipment recycling centre.
- You can obtain further details from your local council, your municipal waste disposal company or from where you purchased the product.
- Alternatively, you can return this product to Marsden – we will recycle this free of charge,

Intended Use

- This scale is intended for use to determine the weight of patients, supported by professional personnel and in rooms intended for carrying out healthcare. The weighing value can be read after a stable weighing value has been obtained. Before use, the scale must be checked by an authorised person to ensure it's in a suitable condition.
- Device is intended to measure one subject at a time.

Explanation of Graphic Symbols

	Caution, consult accompanying documents before use		Separate collection for waste of electrical and electronic equipment, in accordance with Directive 2002/96/EC
	Manufacturer of medical device		Manufacturing year of medical device
	Carefully read user manual before installation and usage, and follow instructions for use.		Medical electrical equipment with Type B applied part
	Device catalogue number		Authorized representative in the European Community
	Manufacturer's batch or lot number		Device is a medical device
	Serial number		Unique Device Identifier
	Device conforms to 93/42/EEC as amended by 2007/47/EC Medical Device Directive. Four digit number refers to Notified Body.		
	Device complies with International Organization of Legal Metrology (Class III) requirements (verified models only)		
	Device complies with EC directives (verified models only) **M**: Conformity label in compliance with Directive 2014/31/EU for non-automatic weighing instruments **19**: Year in which conformity verification was performed and the CE label was applied. (ex: 19=2019) **0122**: Refers to Notified Body for metrology		
	Device complies with UK Regulation. **M**: Non-Automatic Weighing Instruments Regulations 2016. **19**: Year in which conformity verification was performed and the CE label was applied. (ex: 19=2019) **0120**: Refers to the Approved Body for metrology		

Power Supply & Low Battery

The scale uses non-rechargeable batteries, or can be powered from the mains via the AC adaptor.

Make sure the batteries are installed in the battery compartment within the scale. Alternatively, plug the AC adaptor into the port on the side of the scale.

Installing & Replacing the Battery Pack

1. Open the battery compartment
2. Insert two alkaline AA batteries, taking care to match + and -.
3. Or, connect the mains adaptor lead to the scale and plug the mains adaptor to a mains supply, matching the mains voltage marked on the adaptor.

Switching on the Scale

	Press the ON/OFF button firmly.
	The scale will first test all of the display segments.
	The scale will now go into weighing mode and should show 0.000kg on the display.

Switching off the Scale

	Press the ON/OFF button when the scale is turned on. The scale will now power down.
	The scale also has an automatic power-down function. You can change the number of seconds by holding down TARE for eight seconds, and using the HOLD button to switch between options.

Setting the Scale to Zero

	If for any reason the scale shows a reading other than 0.000kg it can be reset to zero. Press the ON/OFF button once.
	The scale will return to 0.000kg.

Using the Hold Function

	Press the HOLD button once, and then place the baby on the scale.
	After a few seconds the scale will lock on the baby's weight. When the baby is taken off the scale, the weight will remain on the display.
	Press the HOLD button again to disable the Hold function and return the scale to 0.000kg.

Using the Tare Function

	To tare off the weight of an item, such as a blanket, place the item on the scale.
	With the weight of the item registering on the display, press the TARE button.
	Place the baby on the scale. The tare weight will be automatically deducted from the reading, leaving an accurate reading for your baby minus the weight of the blanket.
	Press the ON/OFF button to cancel the tare value.

EMC Guidance and Manufacturer's Declaration

Guidance and manufacturer's declaration – electromagnet emissions.

The M-300 is intended for use in the electromagnetic environment specified below. The customer or user of this scale should ensure that it is used in such environment.

Emission Test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	This scale uses RF energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	This scale is suitable for use in all establishments, including domestic establishments 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	Compliance	

Guidance and manufacturer's declaration – electromagnetic immunity.

The M-300 is intended for use in the electromagnetic environment specified below. The customer or the user of this scale 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	±6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, cement 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	± 2 kV for power supply lines +1 kV for input/output lines	± 2 kV for power supply lines not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV differential mode not applicable	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	<5% UT (>95% dip in UT) for 0.5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5s	<5% UT (95% dip in UT) for 0.5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5s	Mains power quality should be that of a typical commercial or hospital environment. If the user of this scale requires continued operation during power mains interruptions, it is recommended that this scale is powered from an uninterruptable power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	The scale's 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.

This scale is intended for use in the electromagnetic environment specified below. The customer or the user of the scale 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 KHx to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the scale including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	**Recommended separation distance:** d = 1,2 √*P* d = 1,2 √*P* 80MHz to 800 MHz d = 2,3 √*P* 800MHz to 2,5 GHz Where *P* is the maximum output power rating of the transmitter in watts (w) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: 
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.			
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 scale is used exceeds the application RF compliance level above, the scale should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the scale. 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 M-300.

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

Rated maximum output power of transmitter	**Separation distance according to frequency of transmitter m**		
	150 kHz to 80 MHz	**80 MHz to 800 MHz**	**800 MHz to 2,5 GHz**
W	d = 1,2√*P*	d = 1,2√*P*	d = 2,3√*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 meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where p is the maximum output rating of the transmitter in watts (w) according to the transmitter manufacturer.

NOTE1) At 80 MHz and 800 MHz, the separation distance for the high 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.

Error Messages

Low Battery The scale's alkaline AA type batteries are flat; please replace the batteries.	
Overload This indicates that the scale's load sensor(s) have been overloaded. Reduce the loading and retry.	
Counting Error 1. The signal from the load cells is too high. Please remove any weight from the scale and try to power on again. If the scale continues to show the error message, it indicates a fault with the electronics or wiring. 2. The signal from the load cells is too low. Please remove any weight from the scale and try again. If the scale continues to show the error message, it indicates a fault with the electronics or wiring.	 
High/Low Zero Count 1. The scale is above its zero range. Please remove any weight from the scale and power on again. If the scale continues to show the error message, it indicates a fault with the electronics. 2. The scale is below its zero range. Check there is nothing jammed underneath the scale and power on again. If the scale continues to show the error message, it indicates a fault with the electronics.	 
EEPROM Error This indicates there is a fault with the scale's software and is normally caused by a fault with the load cell or wiring. Contact your local service representative.	

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EU Importer:	MARSDEN Marsden Weighing Machine Group Europe Ltd, The Black Church, St. Mary's Place, Dublin 7, Dublin, Ireland, D07 P4AX
Manufactured by:	Flintec Transducers (PVT) Ltd PO Box 24, Phase 1 K.E.P.Z. Spur Road 02 Katunayake, Sri Lanka

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