INSTRUCTIONS FOR USE

D[†]ΛGΛΟSΤΙC[®] DM-200 IHB Plus

AUTOMATIC STRAINER
FOR MEASURING BLOOD PRESSURE AND PULSE ON THE ARM



DIAGNOSIS SA ul. Gen. W. Andersa 38A 15-113 Białystok, Poland www.diagnosis.pl





TABLE OF CONTENTS

1. INTRODUCTION .1 1.1. Pressure gauge functions .1 1.2. Important information about self-measurement .1
2. IMPORTANT INFORMATION ON BLOOD PRESSURE AND MEASUREMENT. 2 2.1. How does undercutting / undercutting appear? 2 2.2. What is the correct pressure value? 2
3. CONSTRUCTION OF THE GAUGE
4. TUNING THE TURN GAUGE. 5 4.1. Battery assembly. 5 4.2. Battery life. 5 4.3. Power Supply. 5 4.4. User selection and date and time setting. 6
5. PERFORMING MEASUREMENTS. 7 5.1. Before measuring. 7 5.2. The most common errors. 7 5.3. Attaching the cuff. 7 5.4. Body position during measurement. 8 5.5. Measurement procedure. 8 5.6. End of measurement. 8
6. MEMORY. 9 6.1. Delete all measurements. 9 6.2. Early detection of irregular heartbeat. 13
7. ERROR MESSAGES
8. TROUBLE SHOOTING
9. MAINTENANCE AND CALIBRATION
10. SAFETY AND DISPOSAL
11. SYMBOLS
12. TECHNICAL DATA

Thank you for purchasing the Diagnostic DM-200 IHB Plus blood pressure and pulse measuring device. This model can be used with an irregular pulse. If the device detects an irregular pulse, the symbol will appear in the display. In this case, it is recommended to visit a doctor.

Please read these instructions for use carefully before using the device for the first time. Please keep the instructions for use. The information contained therein may be needed in the future.



Before using the device, please read this manual carefully.

1. INTRODUCTION

1.1. Intended use of the product

The Diagnostic DM-200 IHB Plus blood pressure monitor is a fully automatic digital arm pressure measurement device that allows you to perform quick and reliable measurements of systolic and diastolic pressure, as well as pulse using the oscillometric method.

This device provides a very high accuracy of measurements and has been designed in such a way that its operation is as user-friendly as possible. The device is intended for independent home blood pressure measurements.

For more information about your blood pressure and blood pressure measurement, please contact your doctor.



1.2. Important information about self-measurement

- NS Using a cuff other than the one recommended may result in a measurement error.
- NS Do not use the device to measure blood pressure in infants.
- NS Do not use the device in pregnant patients with pre-eclampsia.
- NS Care must be taken to entangle the tubing to avoid serious injury to the patient or disturbance of blood pressure measurement.
- $_{
 m NS}$ Too frequent measurements may injure the patient due to the disturbance of blood flow.
- NS Placing the cuff over a wound may deteriorate its condition.
- NS The use of a cuff on the arm that is being treated may result in injury by temporarily obstructing blood flow when the pressure is raised.
- $\ensuremath{\mathsf{NS}}$ Do not put on or inflate the cuff on the side on which the mastectomy was performed.
- NS Cuff inflation may temporarily stop vital functions monitoring equipment while used on the same arm.
- NS Measurement of pressure with an automatic pressure measuring device does not cause long-term impairment of the patient's blood circulation.
- NS The device is not suitable for simultaneous operation with high frequency (HF) electrosurgical equipment.



Self-measurement means control, not diagnosis and treatment. Always consult your doctor about unusual values. Under no circumstances should you change the doses of drugs prescribed by your doctor.

- NS The displayed heart rate is not suitable for controlling the heart rate of the pacemaker!
- NS In the event of an arrhythmia, the measurement made with the device should be consulted with a physician.
- NS There is a risk of strangulation for babies in the air tubing or power cord.



- NS Keep it out of the reach of children. Small parts of the kit pose a choking hazard if swallowed.
- $_{\mbox{\scriptsize NS}}$ The device is not intended for use by infants and persons who are unable to communicate.

Electromagnetic interference

The device contains sensitive electrical components, therefore strong electric or electromagnetic fields in the vicinity of the device should be avoided (e.g. cell phones, microwave ovens). Otherwise, the accuracy of the measurements may temporarily deteriorate.

2. IMPORTANT INFORMATION ON BLOOD PRESSURE AND MEASUREMENT

2.1. How does undercutting / undercutting appear?

The blood pressure level is regulated in the brain, in the circulatory center and adapted to the current conditions by means of a feedback loop involving the nervous system. In order to regulate blood pressure, both the strength of the heart's contractions and the diameter of the vessels (the degree of contraction of the smooth muscles of the vessel walls) change frequently. The blood pressure level changes periodically within the heart's cycle: during a systole it is the highest value (systolic blood pressure), and at the end of a diastole it is the lowest value (diastolic pressure). Your blood pressure should be normal to prevent disease development.

2.2. What is the correct pressure value?

The blood pressure value is too high if the diastolic pressure at rest is over 90 mmHg or if the systolic pressure is over 160 mmHg. In this case, consult a doctor immediately. Long-term maintenance of blood pressure at this level is a threat to health due to the progressive damage to blood vessels.

If your systolic pressure is between 140 and 160 mmHg or your diastolic pressure is between 90 and 100 mmHg, consult your doctor. After that, regular self-checks will be necessary.

In case of too low values, i.e. systolic pressure below 100 mmHg or diastolic pressure below 60 mmHg, also consult your doctor. Even with blood pressure within normal range, regular blood pressure self-checks are recommended. This enables any changes in blood pressure to be detected at an early stage and reacted appropriately. If a patient is undergoing treatment for hypotension / hypotension, regular measurements should be taken at a certain time of the day and the results recorded and reported to the physician.

Never use the obtained results to change the dosage of drugs prescribed by your doctor yourself.

Blood pressure classification table (unit: mmHg) according to the World Health Organization (WHO):

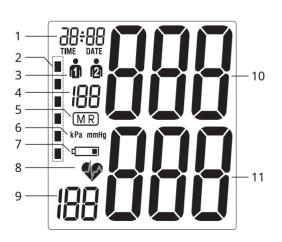
Range	Pressures systolic	Pressures diastolic	measures countermeasures
Optimal blood pressure	up to 120	to 80	Self control
Blood pressure normal	from 120 to 130	from 80 to 85	Self control
Slightly elevated blood pressure	from 130 to 140	from 85 to 90	Consult a doctor
Too high blood pressure	from 140 to 160	from 90 to 100	Be sure to contact your doctor
Much elevated blood pressure	from 160 to 180	from 100 to 110	Be sure to contact your doctor
Dangerously high blood pressure	Above 180	Above 110	Contact a doctor immediately!

NS If your blood pressure values are normal when you are resting, but elevated during times of stress, you may be suffering from a so-called labile (latent) overpressure. If you suspect this is possible, see your doctor.

NS Properly measured diastolic blood pressure above 120 mmHg requires immediate treatment.

3. CONSTRUCTION OF THE GAUGE





1. Date / time

 Blood pressure classification index according to the World Health
 Organization (WHO)

3. Users / Groups

- 4. Number of the memorized measurement
- 5. Symbol for average measured value
- 6. Unit of measure
- 7. Battery discharge symbol
- 8. Irregular heartbeat detection symbol displayed after

completion of the measurement / pulse symbol during the measurement

- 9. Worth your heartbeat
- 10. Systolic pressures
- 11. Diastolic pressures

4. TUNING THE TURN GAUGE

- 4.1. Battery assembly
- 1. Remove the battery cover.
- 2. Put 4 standard AAA alkaline batteries.
 - NS Same brand batteries should be used
 - NS Make sure that all the batteries are inserted in the correct direction according to their polarity.
- 3. Replace the battery cover.
- 4. If the screen shows the low battery icon, , that is, complete 20% power is left.
- 5. If the battery warning icon is displayed on the screen, the batteries are exhausted and need to be replaced.
 - NS Do not mix old and new batteries.
 - NS After replacing the battery, set the time and date again.
 - NS When the battery warning icon is displayed, the device will not turn on until the battery is replaced.
 - NS Use Long-Life AAA type batteries or 1.5V alkaline batteries. 1.2V rechargeable batteries are not recommended.
 - NS If the pressure gauge will be left idle for an extended period of time, remove the batteries from the instrument.

4.2. Battery life

- $_{\rm NS}$ Four new LR6 (AAA) batteries supplied with the device are sufficient for approximately 700 measurements (1 measurement per day at room temperature 23 $^{\circ}$ C). Battery life varies with the temperature at which they are used and may be shorter at lower temperatures.
- NS You can check the battery status in the lower left corner of the screen. If the low battery symbol is display. Laplace them with new ones.

4.3. Power adapter (optional)

- 1. Connect the power plug to the power adapter socket.
- 2. Insert the power adapter into the socket.
 - NS Use the correct power adapter for your local power supply. Power adapter
 - NS specification: 100 ~ 240V, 50 / 60Hz; output: micro USB DC 5V, 1A

○ (• (•

- NS We recommend that you only use the manufacturer's Diagnostic ZUI 5-1 power supply.
- NS Do not use the AC adapter if the device or the power cord is damaged. Turn off the power immediately and unplug the power cord
- NS Do not plug in or unplug the AC adapter from the wall outlet with wet hands.
- NS When operating the device, do not tangle the cables, twists and breaks.
- NS Disconnect the AC adapter plug before cleaning.
- NS The power supply is added to the set optionally (additionally payable).



4.4. User selection and date and time setting

User Choice: The pressure gauge allows you to track the blood pressure readings of 2 users.

- a) Before starting the measurement, make sure that the correct user is set up. The device can track the results of a maximum of 2 users (User 1, User 2).
- b) Hold down the TIME buttom with the device turned OFF for at least 3 seconds. A flashing user icon will appear on the screen.
- c) The user will be changed by pressing the memory button. Presse button to confirm the selection of the user.
- d) We recommend that the first person to perform the measurement is user 1.

SETTINGS OF THE DATE, TIME AND MEASUREMENT UNIT

The pressure gauge has an integrated clock and displays the date. As a result, not only the blood pressure measurement result is saved, but also the exact date and time of the measurement. With new batteries inserted, the clock will be set to 12:00 and the date will be 01-01. You must then set the correct time and date. To do this, follow the steps below.

- 1. Hold down the TIME button with the device turned OFF for at least 3 seconds. The user icon will start flashing. Then press the TIME button again to display the set year (4 characters blink).
- 2. Enter the year by pressing the MEMORY button. ®
- 3. Press the TIME button again. The date will be displayed with the month sign flashing.
- 4. Set the month with the MEMORY button.
- 5. Press the TIME button again. The ast two characters (days) will flash.
- 6. Set the day using the MEMORY button.
- 7. Press the TIME button again. The device will switch to time setting. The hour mark will start flashing.
- 8. Set the hours with the MFMORY button. M
- 9. Press the TIME button again. The ast two characters (minutes) will flash.
- 10. Set the minutes with the MEMORY button. ®
- 11. Press the TIME buttor The unit of measure will flash.
- 12. Press the MEMORY butto@to set the measurement unit (mmHg or kPa)
- 13. After completing the settings, press the TIME buttor®The setting is confirmed and the clock starts working.
- 14. Now when you have finished making all your settings, press the TIME boton again. The date will appear briefly, then the time. The settings made are now confirmed and the clock starts timing.

OTHER INFORMATION

The TIME button advances to the rext setting with each time it is pressed. The MEMORY button hanges the value by 1 (when entering the date / time settings, it causes a change of +1, while in the history of measurements, it causes the transition to the older measurement). By holding the button for 3-4 seconds, switching takes place much faster.

5. PERFORMING MEASUREMENTS

5.1. Before measuring

- NS Immediately before the measurement, avoid any effort, do not smoke or smoke, as all these activities have an influence on the measurement result. Before taking the measurement, you should relax while sitting on the chair in a quiet environment for about 10 minutes.
- NS The measurements should always be made on the same arm (usually the left arm).
- NS You should take measurements regularly, at the same time each day, as blood pressure varies throughout the day.

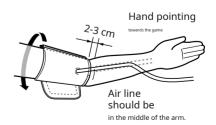
5.2. The most common errors

To make blood pressure measurements comparable, the same measuring conditions are necessary! These conditions always include a quiet environment.

- NS Any effort by the patient to support the arm may result in an increase in blood pressure. Choose a comfortable and relaxed position. During the measurement, it does not flex any muscles in the arm on which the cuff is wrapped. Use a pillow as a support if necessary.
- NS The operation of the pressure gauge may be disturbed by extremes of temperature, humidity and measurement at high altitudes above sea level.
- NS Be careful not to pinch or twist the tubing.
- NS If the cuff is not fastened, the measurement results will be incorrect.
- NS With repeated measurements, blood builds up in the arm, leading to incorrect results. For this reason, blood pressure is correctly measured after a 5-minute break or by raising the arm to allow any accumulated blood to drain (at least after 3 minutes).

5.3. Attaching the cuff

- 1. Place the end of the air tube firmly in the hole on the left side of the pressure gauge (air tube socket).
- 2. Place the end of the cuff under the metal cuff buckle with the Velcro facing outwards.
- 3. Take the tight-fitting clothing off the shoulder on which you measure. Do not use the cuff over thick clothing.
- 4. Place the cuff about 2-3 cm above the elbow. For best results, place the cuff on your bare arm at heart level. The cuff should be wrapped on the arm so that the air tube points towards the hand.
- 5. Cutting the arm due to the sleeve of the garment being rolled up may prevent accurate reading.
- The cuff should be easily wrapped around the arm and the Velcro should close easily.
- 7. After wrapping the cuff, make sure that you can fit your finger under the cuff.
- 8. If the cuff does not fit on the arm, the reading accuracy may not be correct.



- NS Do not kink the cuff or the air tube.
- $\ensuremath{^{\text{NS}}}$ To detach the cuff, remove the air hose plug from the pressure gauge.
- NS Measurement can only be started after the cuff has been correctly wrapped.
- NS The cuff should be replaced if there is a leak or if the cuff is not working properly.
- $_{
 m NS}$ To ensure accurate readings, only the manufacturer's cuff should be used.

5.4. Body position during measurement

Relax and rest your elbows on the table with the palm of your hand facing the game. The cuff and arm should be level with your heart. Reading accuracy may be impaired if the cuff is not wrapped correctly. If the arm is too low, the reading will be too high. If the arm is too high, the reading will be too low. You should sit on a chair. The legs should not be crossed and the feet should not be on the floor. Sit down with your back straight. Sit down so that you have support for your back and shoulder.



5.5. Measurement procedure

After the cuff is wrapped correctly, you can start measuring.

- a) Press the START / STOP button, the display will show all items, the cuff will start inflating. Increasing cuff pressure is displayed continuously on the screen (Fig. 1).
- b) Once the correct pressure is reached, it will begin to slowly decrease. When a pulse is detected, the heart icon on the screen will flash (Fig. 2).
- c) After the measurement is completed, the values for systolic pressure, diastolic pressure and the pulse will be displayed (Fig. 3).

Example (Fig. 3): systolic pressure 126, diastolic pressure 85, heart rate 78 The measurement results will be displayed until the device is turned off. If no button is pressed for 3 minutes, the device will automatically turn off to conserve battery power.

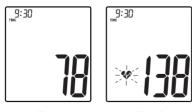


Fig. 1 Fig. 2

5.6. End of measurement

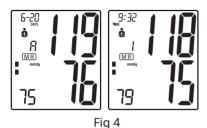
You can press the START / STOP button at any time to stop the blood pressure measurement (for example, when the patient is unwell). The device will automatically lower the cuff pressure.

Fig. 3

6. MEMORY

The internal memory stores up to 120 measurement results for each user.

- 1) Memory browsing MR
 - NS To access the memory resources, press the MEMORY button. The device will
 - NS display the average result from the last 3 measurements.
 - NS After pressing the MEMORY button, the ast measurement is displayed.
 - NS Pressing the MEMORY button again all www the user to view the measurements from the newest to the oldest (Figures 4 and 5).



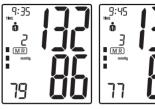


Fig 5

6.1. Memory - deleting all measurement results

Before you delete any results stored in memory, make sure you do not need them in the future. It makes sense to keep a written record so that more information can be provided when visiting the doctor's office. To delete all saved results, hold down the MEMORY button for at least 5 seconds. Release the butt@n when "CL" is displayed on the screen. To permanently delete all memory, press the MEMORY button while "CL" is flashing. ®



6.2. Early detection of irregular heartbeat

If this symbol is displayed after the measurement has been completed, it means that an irregular heart rate was detected during the measurement. In this case, the result may differ from your normal blood pressure - repeat the measurement. In most cases, this is nothing to worry about, but if this symbol appears regularly (e.g. several times a week with your daily measurements) we recommend that you inform your doctor.

Provide the physician with the following explanation

Information for the physician on the frequent occurrence of the Irregular heartbeat indicator. The device is an oscillometric pressure gauge which also analyzes the heart rate during the measurement. The device has been tested in clinical conditions. If the device detects an irregular heartbeat, the irregular heartbeat symbol will be displayed when the measurement is complete. If this symbol appears regularly (e.g. several times a week with daily measurements), we recommend that you contact your doctor.

The device is not a substitute for a cardiac examination, but serves as an aid in detecting irregular heartbeat at an early stage.

7. ERROR MESSAGES

If an error occurs during the measurement, the measurement will be aborted and an error code will be displayed.

Error code	Possible cause
ERR 1	Heart rate not detected.
ERR 2	The disturbance influenced the measurement result. Cause: There was arm movement during the measurement.
ERR 3	Inflating the cuff for too long. The cuff has not been wrapped correctly.
ERR 5	The measurement showed an unacceptable difference between the systolic and diastolic pressure. Make another measurement carefully following the instructions. If you still get the abnormal results, see your doctor.
ERR 8	Pressures greater than 280 mmHg

Further information: Even in healthy people, blood pressure varies, so it is important to always take measurements under the same conditions (quiet environment). If, despite following these rules, fluctuations exceed 15 mmHg and you experience irregular heart rate several times, consult your doctor.

In case of problems, please consult Diagnosis SA

Never try to repair the device yourself! All unauthorized attempts to open the device will void the warranty!

8. TROUBLESHOOTING

If a problem occurs while using the machine, check the following items and take the countermeasures listed.

Fault	countermeasures
The screen remains dark even though the device is turned on and the batteries are inserted.	Check that the batteries are correctly oriented (poles) and, if necessary, correct them. If the display is incorrect, reinstall the batteries or replace them.
The device often cannot measure the pressure or the measurement results are too low (or too high).	Check the position of the cuff. Measure the blood pressure again in a quiet and calm environment according to the instructions for use.
The results of each measurement are different, although the device is working properly and the values are also displayed correctly.	Read the information below and the information in the "Frequently Occurring Errors" section. Repeat the measurement. Please remember: your blood pressure fluctuates constantly, so subsequent measurements will have some variation.
The blood pressure measurement result differs from what was measured by your doctor.	1. Record the daily measurement results and consult them with your doctor. Please remember: some people feel nervous when they see their doctor, which may increase their blood pressure (relative to the level of a home measurement).

9. MAINTENANCE AND CALIBRATION

- a) Do not expose the device to extreme temperatures, humidity, dust and direct sunlight.
- b) The cuff has a sensitive, airtight reservoir (bladder). Be careful when handling it and avoid deforming it by twisting or bending.
- c) Clean the device with a soft and dry cloth. Do not use gasoline, thinners or similar solvents. Stains on the cuff should be removed carefully with a damp cloth and soapsuds. Do not get wet or wash the cuff!
- d) Take care not to drop the device and handle it with care. Protect the device against strong vibrations and shocks.
- e) Do not open the device. Otherwise, the calibration by the manufacturer will be invalid!

PERIODIC CHECKS

- NS The measuring device requires regular checks.
- NS For this reason, we recommend that you carry out periodic pressure gauge checks every 2 years. For more information, please contact Diagnosis SA
- NS The product lifetime is defined as 5 years.



10. SAFFTY AND DISPOSAL

- NS This device may only be used for its intended purpose as described in the instructions for use. The manufacturer is not responsible for any damage caused by improper use of the device.
- NS The device contains sensitive components and must be handled with care. The conditions for storage and use (technical data) must be adhered to.
- NS It protects the device from water and moisture, extreme temperatures, impacts, dropping, dust, direct sunlight, heat and cold.
- NS Pump cuff only when applied.
- NS Do not use the device near electromagnetic fields generated by mobile phones and radio installations.
- NS Does not use the device if it is damaged.
- NS If the device will not be used for a long time, remove the batteries.
- NS Only original elements provided by the Manufacturer should be used. The use of other items may reduce the security level.



The device should be kept away from children and pets. Some parts of the device are small and can be easily swallowed.

11. SYMBOLS

SYMBOL	FUNCTION / MEANING		
⊕{AAA	Marking of the battery poles	\triangle	Warnings
SYS	Systolic blood pressure in mmHg		Constant current
DIA	Diastolic blood pressure in mmHg	SN	Serial number
PUL./min	Pulse - the number of heartbeats per minute	\sim	date of production
*	Irregular heartbeat symbol	***	Manufacturer
₩	Symbol of the detected heart rate during the measurement	Rev.	Date of the last update
*	Protects against moisture		Class II insulation
IP	Protection against the ingress of water and foreign bodies	★	Application part type BF
*	Keeps away from sunlight	REF	Product catalog number
3	Before use, read the instructions for use	台	For indoor use only



Dispose of the used product and batteries to a waste collection point. Contains ingredients hazardous to the environment. When disposed of correctly, you conserve valuable resources and avoid any negative effects on health and the environment which could be compromised by inappropriate waste handling. If in doubt about where to return the used camera, contact Diagnosis.

12. TECHNICAL DATA

Measurement method	Oscillometric
Display	LCD digital screen
Measurement range	Pressures: 30 - 280 mmHg. Pulse: 40 - 199 beats per minute
Accuracy of measurement	Pressures: ± 3 mmHg Heart Rate: ± 5% of Reading
Inflating air into the cuff	Automatic pumping device
Deflating the cuff	Automatically by the air valve
Memory function	2 x 120 measurement results with date and time
Power	4 x 1.5 V AAA alkaline batteries or micro USB adapter DC 5.0 V / 1.0 A (optional)
Terms of use	Temperature: 5 - 40 ° C Humidity: 15 - 85% RH Atmospheric pressures: 860 - 1060 hPa
Transport and storage conditions	Temperature: -10 - 55 ° C Humidity: 10 - 95% RH Atmospheric pressures: 860 - 1060 hPa
Dimensions	135 × 90 × 41 ± 1.0 mm
Libra	372 g \pm 5 g including batteries and cuff
Cuff size	Size M / L 22-42 cm
Protection against electric shock	Internally Powered Medical Electrical Equipment (when running on batteries only) Class II Medical Electrical Equipment (optional power supply)
Safety classification	Type BF device
Operating mode	Continuous work
IP classification	IP22
Packaging included	Pressure gauge, cuff size M / L (22-42 cm), $4 \times AAA$ batteries, instructions for use, cover, power supply (optional)

Guidance and manufacturer's declaration - electromagnetic emissions

Diagnostic DM-200 IHB Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the device should make sure that the device is used in such an environment.

Emission test	Fulfilling requires	Electromagnetic Environment Guidelines	
The emission of waves by o frequency radio; CISPR 11 standard	Group 1	Diagnostic DM-200 IHB Plus uses RF energy only for its internal function. Consequently, these emissions are very low and should not interfere with the operation of nearby electronic equipment.	
Radio frequency emission; CISPR 11 standard	Class B	Diagnostic DM-200 IHB Plus can be used in all buildings, including domestic homes and buildings, that are directly	
Harmonic emissions IEC 61000-3-2	not applicable	connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.	
Voltage fluctuations / flicker emissions IEC 61000-3-3			

RF- frequency from the section of the electromagnetic spectrum, which is between the lower range of longwave radio frequencies and the infrared range; a frequency usable for radio transmission. General limits are 9 kHz and 3,000 GHz

Guidelines and manufacturer's declaration regarding electromagnetic immunity

Diagnostic DM-200 IHB Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the Diagnostic DM-200 IHB Plus should assure that it will be used in such an environment.

Immunity test	Test level, norm IEC 60601	Level compliance	Electromagnetic environment - tips	
Discharge electrostatic (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wooden, concrete or made of ceramic tiles. If floors are covered with synthetic material, the relative humidity should be at least 30%. If ESD interferes with the operation of the equipment, the use of components should be considered countermeasures ie wrist strap, grounding.	
Quick changers temporary disturbances IEC 61000-4-4	± 2 kV for power line. ± 1 kV for line input / output	Not refers to	The power quality should be the same as for typical commercial or hospital installations.	
Power surges IEC 61000-4-5	± 1 kV differential mode. ± 2 kV common mode	Not refers to	The power quality should be the same as for typical commercial or hospital installations.	
Voltage dips, short interruptions and changes voltage on the inputs power line IEC 61000-4-11	<5% UT (> 95% dip in UT) for 0.5 cycles 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (> 95% dip de UT) for 5 s	Not refers to	The power quality should be the same as for typical commercial or hospital installations. If the user [of the device or the system] requires continuous use of the device even during power cuts, we recommend that you connecting a device or system to an uninterruptible power supply.	
The magnetic field power supply at a frequency (50 / 60Hz) IEC 61000-4-8	3 A / m	3 A / m	The level of the magnetic fields of the power sources should be within the limits valid for typical commercial or hospital installations.	

Note UT is the alternating voltage (AC) of the utility grid prior to application of the test level.

RF- frequency from the section of the electromagnetic spectrum, which is between the lower range of long-wave radio frequencies and the infrared range; a frequency usable for radio transmission. General limits are 9 kHz and 3,000 GHz.

Guidelines and manufacturer's declaration regarding electromagnetic immunity

Diagnostic DM-200 IHB Plus is intended for use in the electromagnetic environment specified below. The customer or the user of the Diagnostic DM-200 IHB Plus should assure that it will be used in such an environment.

Immunity test	Test level, standard IEC 60601	Level compliance	Electromagnetic environment - tips
Conducted signal o radio frequency IEC 61000-4-6 The emitted signal o radio frequency IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V / m 80 MHz to 2.5 GHz	3 V	Portable and mobile RF communications equipment should be used at a distance not less than the recommended distance from any Diagnostic DM-200 IHB Plus components, including cables, from the equation to the frequency of the transmitter. Recommended distance d = 1.2 d = 1.2 80 MHz to 800 MHz d = 2.3 800 MHz to 2.5 GHz where P is the maximum power rating of the transmitter in watts (W) as stated by the manufacturer, and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic field 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: Recommended distance: d = 1.2

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: The information provided is not applicable in all situations. The propagation of electromagnetic waves is influenced by absorption and reflections from surfaces, objects and people.

(a) Field power from specific transmitters such as mobile phone base stations, radio transmitters, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment, a site survey should be considered. If the measured field strength in the location where the Diagnostic DM-200 IHB Plus is operating exceeds the appropriate compliance level, it should be checked that the Diagnostic DM-200 IHB Plus is operating normally. If improper operation is observed, it may be necessary to take appropriate preventive measures such as re-arranging or relocating the Diagnostic DM-200 IHB Plus.

(b) For frequencies outside the range 150 kHz to 80 MHz, the field strength should not be greater than 3 V / m.

RF - frequency in the part of the electromagnetic spectrum, which is between the lower range of long-wave radio frequencies and the infrared range; a frequency usable for radio transmission. General limits are 9 kHz and 3.000 GHz.

Recommended separation distances between portable and mobile RF communications equipment and Diagnostic DM-200 IHB Plus

Diagnostic DM-200 IHB Plus is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the Diagnostic DM-200 IHB Plus can help prevent electromagnetic interference by maintaining a minimum separation distance between portable and mobile RF communications equipment (transmitters) and the Diagnostic DM-200 IHB Plus as recommended below, according to the maximum output power of the communications equipment.

Maximum power nominal (W)	Distance in meters (m) according to the frequency of the transmitters			
	150 kHz to 80 MHz d = 1.16	80 MHz to 800 MHz d = 1.16	800 MHz to 2.5 GHz d = 2.33	
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 below, the recommended separation distance d in meters (m) may be estimated using an equation appropriate to the frequency of the transmitter, where P is the maximum output power of the transmitter in watts as specified by the transmitter manufacturer.

NOTE 1 at 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. The propagation of electromagnetic waves is influenced by absorption and reflection from buildings, objects and people.

The product may only be used in the EU member states or in the country of purchase. If you use it in other countries, you may violate the laws and regulations of that country regarding radio communications.



ul. Gen. Władysława Andersa 38A 15-113 Białystok, Poland www.diagnosis.pl

MAIN SERVICE

Diagnosis SA ul. Przemysłowa 8, 16-010 Wasilkw tel. 85 874 60 45 serwis@diagnosis.pl



stamp of the shop and signature of the seller

WARRANTY CARD

DEVICE NAME
MODEL
SERIAL NUMBER
SALE DATE

TERMS OF WARRANTY

1. Diagnosis SA grants a guarantee:

NS 5 years for Diagnostic pressure gauges 2

NS years for Diagnostic cuffs 1 year for

NS Diagnostic power supplies

Hardware defects revealed during the warranty period will be removed free of charge within 21 days. The deadline is counted from the date the equipment is delivered to the site.

2. The buyer has the right to replace the equipment with a non-defective one if:

NS the repair was not performed within the time limit specified in point 1. an authorized

NS service point found a manufacturing defect that cannot be removed

NS During the warranty period, 4 repairs were made, and the equipment still shows defects that prevent its use as intended.

The term repair does not include activities related to checking and cleaning the equipment.

- 3.The warranty does not cover: batteries, products with an illegible or damaged serial number, damage resulting from use and storage inconsistent with the operating instructions, ingress of liquids or foreign objects, overvoltage in the power supply network, repairs by unauthorized persons and random events .
- 4. The defective equipment should be delivered by the buyer to the address of the main service.
- 5. The warranty for the sold consumer goods does not exclude, limit or suspend the rights of the buyer resulting from the non-compliance of the goods with the contract.
- 6. The only basis for the warranty entitlements is the warranty card with the date of sale, stamp and signature of the seller. An empty, incorrectly filled card, with traces of corrections and entries by unauthorized persons, illegible due to damage is invalid.

ATTENTION! Before sending the device for repair, please clean it from all kinds of dirt.

NOTES ON INSPECTION AND REPAIR

No.	date applications	date repairs	warranty extended down	description of the activity	rubber stamp and signature CONTRACTORS

ul. Gen. W. Andersa 38A 15-113 Białystok, Poland www.diagnosis.pl MAIN SERVICE Diagnosis SA ul. Przemysłowa 8, 16-010 Wasilkw serwis@diagnosis.pl

INFOL INIA

OPEN:
Monday Friday

IN HOURS:

800 27 30 11 + 48 85 874 69 28

for landline phones ree call
for mobile phones (the cost of the call is borne by the callers according to the operator's tariff)