



AVECINNA Company (PHC)

Medical Equipment



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About Us

AVECINNA Company was established in 2005 with registration number 258464 from General Administration of Registration of Companies and Industrial Property in Tehran with the aim of improving the provision of goods and services to the medical community has started its official activity.

The company's products include Cardiac Stress Test (E.T.T), Cardiac Rehabilitation Telemetry Systems, Ambulatory Blood Pressure Monitoring, and Electrocardiograph (ECG Machine). All products are licensed and approved by the General Administration of Medical Equipment (MOH) and have CE certification of the European Union and ISO 9001:2015 , ISO 13485:2016 , ISO 10002:2018 , ISO 10004:2018

Our products are installed and being used in over 1500 medical centers in Iran. They are also exported (thanks to their high quality!) and comparable to the products of European and American companies. Our customers are from all around the world and our company's main export destination was to Persian Gulf states, the countries of the CIS and some European and African countries.

Vision

In the vision of 2032, AVECINNA Company is a pioneer in manufacturing high-tech products with the best quality, science-based, value-creating, with the highest position in health system, and constructive role in stable developing of country and the region.

Mission

Our mission is to improve the level of health and increase the quality of life among people of different social strata. We emphasize on creating and developing new and innovational products, developing local and global markets, progressive upgrading and improving of stable organizational efficiency, and empowerment of human resources and educational funds with depending on dynamic leading of AVECINNA company.







Policy

AVECINNA Company was established in 2005 with registration number 258464 from General Administration of Registration of Companies and Industrial Property in Tehran with the aim of improving the provision of goods and services to the medical community has started its official activity.

This company, as of the manufacturers, importers, and exporters of medical equipment with following management rules of ISO 9001:2015 and ISO 13485:2016, announces its quality policy principles as the list below:

- Upgrading the level of knowledge of staff and their technical ability
- Increasing customers' satisfaction and gaining their trust
- Increasing the quality of manufactured products and purchasing high-quality raw materials
- Using modern technologies in the producing process
- Expanding the acting zone of company among the country and region
- Precedence of prevention over correction and dissemination of this culture among the staff
- Using new methods in the sciences of Electricity, Electronics, and Biomedical Engineering
- Compliant with usable regulatory and other local necessities

In order to achieve these goals, I guarantee to provide the best facilities and resources; and with following the management system of ISO 9001:2015 and ISO 13485:2016 train the employments about quality policy of the company.

Maryam Ghasemi
CEO



PART ONE

Stress Test System (ETT)

Cardiac Rehabilitation Telemetry System

Medical Treadmill



Exercise Test System - Model: AST-3000

Cardiac stress test system is a set of hardware and software components which is used in order to recognize and measure the changes and analyze heart signal of cardiovascular patients. This system is mainly used to determine the cause of chest pain, heart rhythm dysfunction and the capacity and power of the heart. Of course, there may be other reasons that physicians request to perform this test. In designing this collection, special embedded hardware that can transfer patient's heart rhythm (ECG) wired and wireless to a computer and analyze them. In this test, treadmill or stationary bike is used. To perform this test while the electrical activity of the heart is recorded through ECG and measuring blood pressure, the person begins to walk on a treadmill or pedaling on the stationary bicycle. This diagnostic action indicates the heart response to the increasing need of body to oxygen. This diagnosis often continues until the heart rate increases to the Target Heart Rate. Unless complications such as chest pain or high blood pressure occur, in this case the test will be stopped. 10 to 15 minutes after exercising, the patient's condition is under control until the heart rate returns to its initial levels. A unique feature of the stress test system manufacturing AVECINNA Company can be very little noise at the time of patient running on a treadmill, the ability to bear weight up to 200 kg, maintain and store all patient information and ECG signal, the compatible module for automatic Stress NIBP gearboxes, patient records management, unconditional warranty up to 5 years for treadmill motors, free installation commissioning for all health centers throughout the country, also obtaining electrical safety standards, EMC and valid approvals from European Union (CE0476).





Wireless ETT-Transmitter Module

- On/Off switch
- Specially made bag and belt for protecting against impact
- Rechargeable Li-Ion battery
- Anti noise/artifact technology to stabilize baseline and reduce electrical noise
- RGB LED for showing battery status
- Protection against Defibrillators



Wireless ETT-Receiver Module

- Compatible with any computer system connected via USB
- Protection against Defibrillators
- LED showing connection with Transmitter Module
- Receiving ECG Signal within 15 meter radius



Wired ETT-Stress ECG Module

- On/Off switch
- Compatible with any computer system connected via USB
- Anti noise/artifact technology to stabilize baseline and reduce electrical noise
- Protection against Defibrillators



ETT Computer Software

- Display and print 12 Channels on A4 paper
- Treadmill with motor power of 6 Hp./AC and 5 years guarantee for motors and bearing weight up to 200 kg
- Wired and Wireless ECG Signal control with environmental noise protection
- Anti noise/artifact technology to stabilize baseline and reduce electrical noise
- Stress ECG unit capable of ECG signal analysis, and standard filters
- Saving all information and data of patients
- Managing patients' records with editing, deleting, and other operations
- High quality ECG Signal displaying of patient while running on treadmill with lowest artifact
- Highest accuracy of recognizing QRS wave
- Recording ECG signals and making a list of all arrhythmias and ST-wave changes
- One year warranty for all parts of the system and five years of guarantee for treadmill motors
- Free installation and training for all medical centers in the country
- Compatible with Stress NIBP module
- Certified by MOH, ISO 9001:2015, ISO 13485:2016, CE0476



Cardiac Stress Test System Technical specifications

Inputting Leads	12 Leads (10 Electrodes)
Dynamic range	AC differential: ± 5 mV, DC offset: ± 300 mv
Sampling Rate	500
Frequency Response (Hz)	0/65 to 150
Input impedance	$\geq 10\text{M}\Omega$
Polarization tolerance volt	± 500 mV
CMRR	$\geq 105\text{dB}$
Sampling precision	24 digit
Wireless ECG Transmitter Power Supply	5 VDC / 1 A
Wired ECG Power Supply	5 VDC / 250 mA
Battery Type	3.7 Volt Litium ion 2200 mA
Wireless ECG Transmitter Work Time With Battery	8 hours
Filters	AC Line -Low Pass EMG 25 / 35 Hz - Base line
Gain mm/mv	5,10,20
Speed mm/Sec	12.5,25,50

Physical

	(Wireless System)	(Wired System)
Dimensions WxLxH	Transmitter : 124 x 80 x 31 (mm) Receiver: 121 x 139 x 37 (mm)	140 x 210x 37 (mm)
Weight	Transmitter: 180 g With Battery Receiver: 140 g	260 g

Safety

Classification	Eu: IIa & Iran:B
Type of Protection	Type CF with Defibrillation Protection
Patient Leakage current	$<10\mu\text{A}$
Standard	IEC60601-1 & ANSI/AAMI EC11 & IEC60601-1-2 & IEC62304

Cardiac Stress Test System

Model: AST-3000

Trolley Size



Cardiac Rehabilitation Telemetry System Model: ACR-6000

In recent years, cardiovascular diseases have been one of the most common diseases among the people of the world. Following the industrial life, overpopulation, lack of exercise, weight gain, high cholesterol, air pollution, stress and psychological pressure, smoking, and other various factors, heart diseases have the most victims of the disease during the past century. This is despite the fact that heart diseases' age, in the country, has fallen to 15 years. Cardiac Rehabilitation system is a set of hardware and software components is used in order to recognize and measure the changes and analyze heart signal of cardiovascular patients. This system is mainly used in the diagnosis, prevention, and treatment of patients who have experienced acute myocardial infarction or people who have undergone open-heart surgery, (CABG), those with constant pain chest, PCI with CHF, heart transplantation with repair of heart valves, and etc.

After studies in the field of cardiology and cardiac patients who after initial treatment find themselves people with disabilities, think themselves lagged of routine daily life and economic activity; By this system, you can restore them again and return to routine life. In this series use, patients, according to a different kind of level of physical condition, can be controlled by a computer, connected to treadmill, bike ergometer, arm ergometer, elliptical machine, and etc.

Special hardware has been embedded in the design of this system to transfer ECG signal of patients to the nurse station computer wirelessly in order to be analyzed by the software. System performance is so that it can connect simultaneously 4 to 64 patients to various modules of the device and the physician can define program and change Mets, Watt, Speed, Slope of devices based on the conditions of patients and also observes RMR- BMR- Calorie - BMI - BP, which are calculated by the software. All of the calculating process is done by the computer.

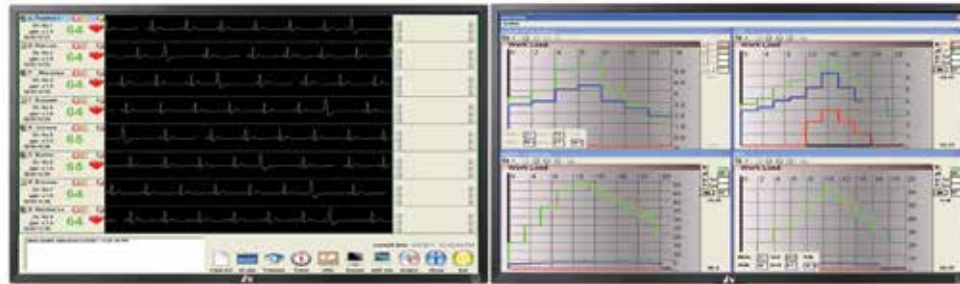
All information is stored, so the doctor can constantly, monitor the patient's condition, and due to the recovery process, adopt effective treatments during the whole process of treatment. Given that cardiovascular diseases are common diseases among people of the world, this device can be used to treat, improve and extend the life of patients with the history of CABG (open heart surgery).



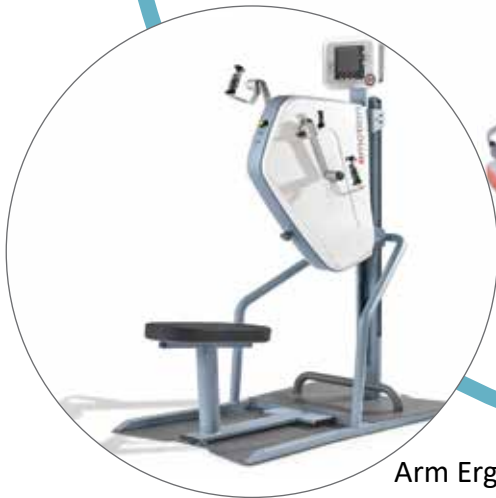
Elliptical



Medical Treadmill

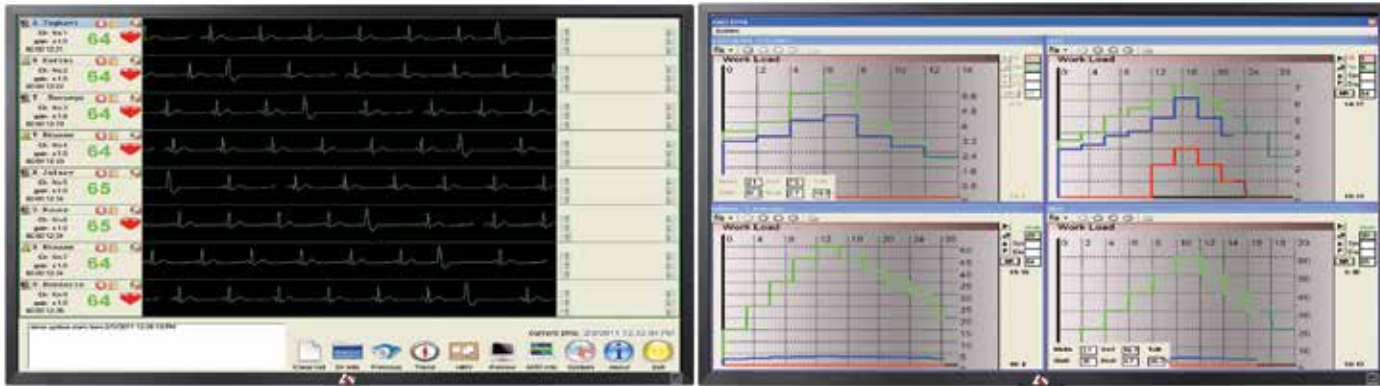


Arm Ergometer



Bicycle Ergometer





Features:

- Simultaneously monitoring and controlling 4 to 64 patients
- Monitoring and recording ECG signal wirelessly within 100 meter radius
- Online color printing of patients' status and ECG signal on A4 paper
- Separately exercise programming of each patient
- Calculating and showing BMR, RMR, BMI, VO₂, Normal Weight, Ideal Weight, Calorie, and etc.
- Adding exercise protocols with unlimited stages
- Parallel controlling of treadmill, bike ergometer, arm ergometer, elliptical machine, and etc.
- 200 default protocols modified for cardiac rehabilitation patients for 12, 24, and 36 sessions
- Smart alarm system for monitoring patients status
- Calculating, displaying, and analyzing ECG, BP, METs, Watt, Speed, and slope on graphs
- Smart treadmill speed controlling with Heart Rate changes
- Protection against Defibrillators
- Compatible with CPET devices and performing Cardio Pulmonary Exercise Testing
- Compatible with bike ergometer, arm ergometer, and elliptical machine of Emotion Fitness GmbH & Co. KG (DU)
- Treadmill with motor power of 6 HP/AC and bearing weight up to 200 kg
- 5 years guarantee for motors
- Two year warranty for all parts of the system and ten years of technical support
- Free installation and training for all medical centers in the country
- Certified by MOH, ISO 9001:2015, ISO 13485:2016, CE0476



Transmitter Module

- On/Off switch
- Specially made bag and belt for protecting against impact
- Rechargeable Li-Ion battery
- Anti noise/artifact technology to stabilize baseline and reduce electrical noise
- RGB LED for showing battery status
- Protection against Defibrillators



Receiver Module

- Compatible with any computer system connected via USB
- Protection against Defibrillators
- LEDs showing connection with Transmitter Modules
- Receiving ECG Signal within 100 meter radius

Medical Bike Ergometer – Emotion Fitness Co



Motion Cycle is a classic heart training device for professional users. The network independency of the device gives a great opportunity to be synchronized with variety of devices and software which makes it so flexible and economically beneficial. This device offers a simple solution as ergonomic training situation in medical industry. Suitable-length, adjustable, and curved handles are important features for all the users and the ones with limits in movement.



Features:

- Easy use, LED Display with backlight
- Easy pedaling
- Vertical and horizontal seat adjustment
- Independent network
- Curved handles capable of adjusting the length
- Bearing weight up to 200 kg
- Primary power 15 Watt up to 600 Watt (Optional)
- Electrical vertical adjustment of the seat (By an external power source)
- Compatible with Cardiac Rehabilitation System and Stress Test System (ETT)

Arm Ergometer – Emotion Fitness Co



Arm ergometer is important for upper body training and treatment. As it can be used as a cardiovascular device, it could be used for stamina focused exercise for upper organs, too. The seat can be adjusted via pump springs embedded in the device and also this device can be trained with while seated and standing. Lowest surface of device is only 5 mm height hence wheelchairs can be placed by removing the seat easily.

Features:

- Easy use, LED Display with backlight
- Ability to move forward and backward
- Pump springs for adjusting the desired height of device
- Horizontally seat adjustment
- Removable seat for standing training, Pezziball use, and Wheelchair
- Handles height adjustment
- Bearing weight up to 200 kg
- Primary power 15 Watt up to 600 Watt (Optional)
- Compatible with Cardiac Rehabilitation Telemetry System and Stress Test System (ETT)

Cardiac Rehabilitation System Technical specifications

Inputting Leads	1 Lead (3 Electrodes) I ,II
Dynamic range	AC differential:± 5 mV, DC offset:± 300 mv
Sampling Rate	500
Frequency Response (Hz)	0/65 to 150
Input impedance	≥10MΩ
Polarization tolerance volt	± 500 mV
CMRR	≥ 105dB
Sampling precision	24 digit
Wireless ECG Transmitter Power	5 VDC / 1 A
Battery Type	3.7 Volt Litium ion 2200 mA
Wireless ECGTransmitter Work Time With Battery	10 hours
Filters	AC Line -EMG 25 / 35 Hz - Base line
Communication	USB 2.0 , USB 3.0
Gain mm/mv	5,10,20
Windows Compatibility	Windows XP&7&8

Physical

	(Wireless System)
Dimensions WxLxH	Transmitter : 140 x 210 x 37 (mm) Receiver: 121 x 139 x 37 (mm)
Weight	Transmitter : 170 g With Battery Receiver: 160 g

Safety

Classification	EU: II b & Iran: C
Type of Protection	Type CF with Defibrillation Protection
Patient Leakage current	<10μA
Standard	IEC60601-1 & ANSI/AAMI EC13 & IEC60601-1-2 & ASTM F 2115-05 & IEC 62304





Medical Treadmill Model: Med-2000

This treadmill is used in Cardiac Rehabilitation Telemetry System and Stress Test System (ETT). Medical treadmills have isolation trances connectivity port to PC, and Emergency Stop key. Medical treadmills of AVECINNA Company have special standards for medical treadmills, and are installed in more than 400 medical centers in Iran. Special features of these treadmills are high engine power, Five years guarantee, bear weight up to 200 Kg, and special designing based on medical centers feedbacks.

Features:

- Compatible with all Cardiac Rehabilitation System and Stress Test System software protocols
- Specific standard for Medical Grade Treadmills
- Treadmill with engine power of 6 HP/AC and five years engine guarantee
- Bear weight up to 200 kg
- RS-232 serial port for connecting to a computer system
- Emergency Stop key
- Trackmaster protocol software connectivity
- 1 year warranty and 10 years parts support by AVECINNA
- Net Weight: 165 Kg
- Gross Weight: 215 Kg
- Pallet Dimensions: 226×105×52 cm



PART TWO

ECG Machine

BP Holter Monitoring

ECG Holter Monitoring



ECG Machine – Model: Sina-100



Electrocardiograph device is a set of hardware components including: thermal printer, patient cable, Chest suction electrodes, Limb clamp electrodes, and heart signal display and control keys. By this device we can study and calculate electrical heart signals with sampling methods of releasing these signals in different areas of body. Electrocardiograph Model: SINA-100 is designed and produced in 2015 by AVECINNA Company. It has electrical safety standards, EMC and European Union authoritative confirmation. Special features of this device can be its very low noise, ease of use, ability to reprint the last patient's ECG signal, connecting compatibility to computer systems and heart signal analysis through PC, capability of remaining in full function without being connected to external power source by an embedded internal battery, memory capacity to 150 patients, and 5-years warranty.

Features:

- Displaying 12 channels at the same time with High Definition of heart signal on LCD screen
- Ability to print ECG signal in three modes 1, 3 and 6 channel
- Ability to print a selected channel as Long Lead
- Recording in Auto and Manual modes
- Easy operation, lightweight and portable
- Internal battery capable to keep device powered on, without connecting to power, up to 8 hours
- Capable to store ECG signal for up to 150 patients
- Ability to reprint the last record
- Anti noise/artifact technology to stabilize baseline and reduce electrical noise
- Connectivity to the PC via USB port to analyze ECG signal and 12 channel ECG signal simultaneous printing on A4 paper
- Protection against Defibrillators
- Certified by MOH, ISO 9001:2015, ISO 13485:2016, CE0476
- 5 years warranty and 10 years parts supply by AVECINNA Company



30 ECG Machine Technical specifications

Inputting Leads	12 Leads (10 Electrodes)
Channels	1 & 3 & 6 Channels+1 Channel / Long Lead
Dynamic range	AC differential : ± 5 Mv / DC offset: ± 300 mV
Sampling Rate	500
Frequency Response (Hz)	0/5 to 350
Input impedance	$\geq 10\text{M}\Omega$
Polarization tolerance volt	± 500 mV
CMRR	$\geq 105\text{dB}$
Sampling precision	24 digit
Power Supply/ Fuse	110 ~ 240 VAC / 200 mA / 60VA / Fuse 2000mA
Battery Type	12 VDC/ 1300 mA (Lead Acide) Rechargedable Battery
ECG Work Time With Battery	6 hours/ 100 Basic / Report (Automatic Mode)
Filters	AC Line -Low Pass / EMG 25 / 35 Hz - Base line
Communication	USB 2.0 & RS-232
Gain mm/mv	5, 10, 20
Speed mm/Sec	12.5,25,50
paper	110mm
LCD Type	4.3 Inch TFT Color
Thermal Printer	0.125 mm(8 dots / mm)
ECG Storage	150 Records

Physical

Dimensions W x LxH	298x240 x80(mm)
Weight	3.65 kg With Battery

Safety

Classification	EU: II a & Iran: B
Type of Protection	Type CF with Defibrillation Protection
Patient Leakage current	<1A
Standard	IEC60601-1 & ANSI/AAMI EC11 & IEC60601-1-2 & IEC 50601-2-25 & IEC 62304



ECG Machine
Sina -100

Ambulatory Blood Pressure Monitoring – Model: ABP-700



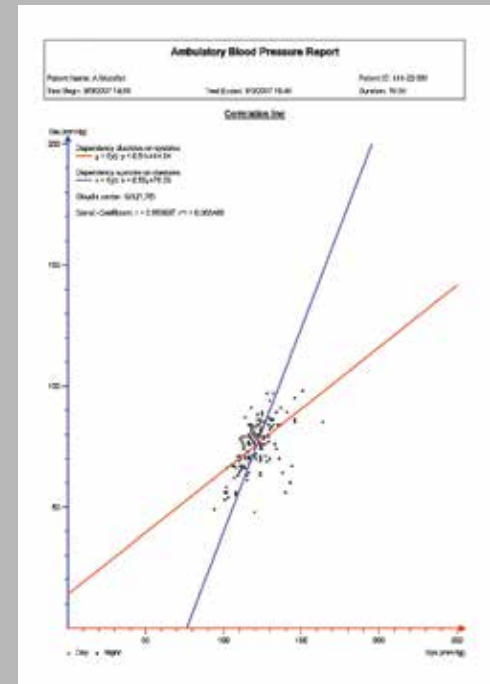
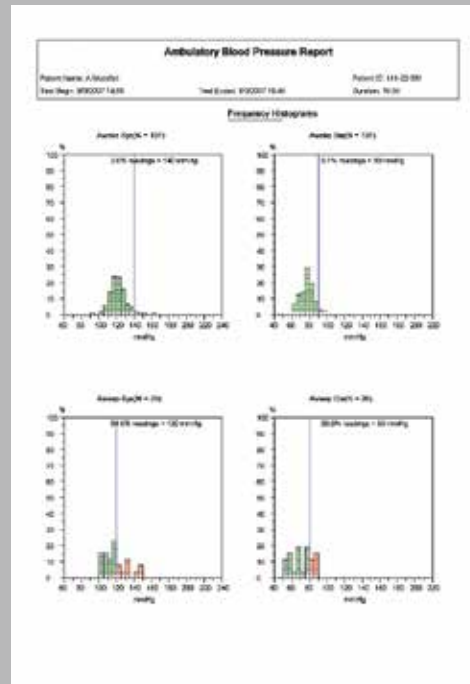
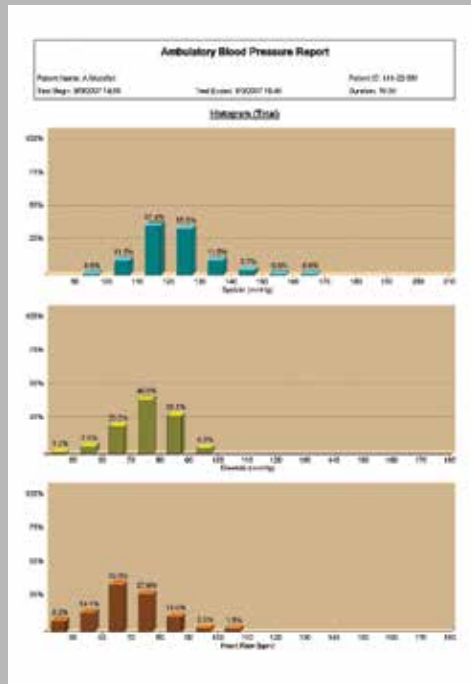
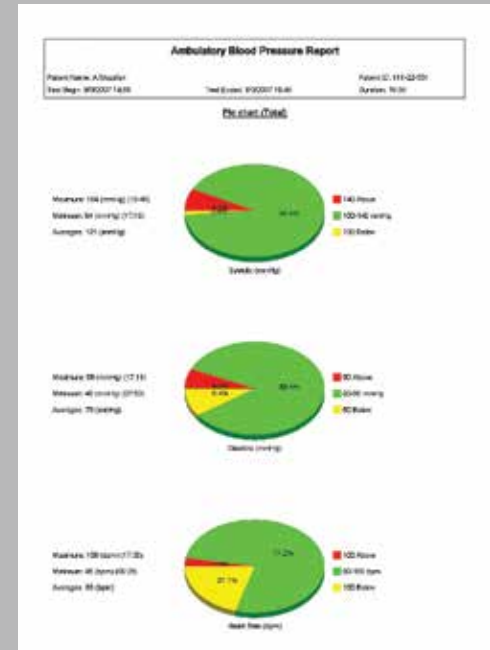
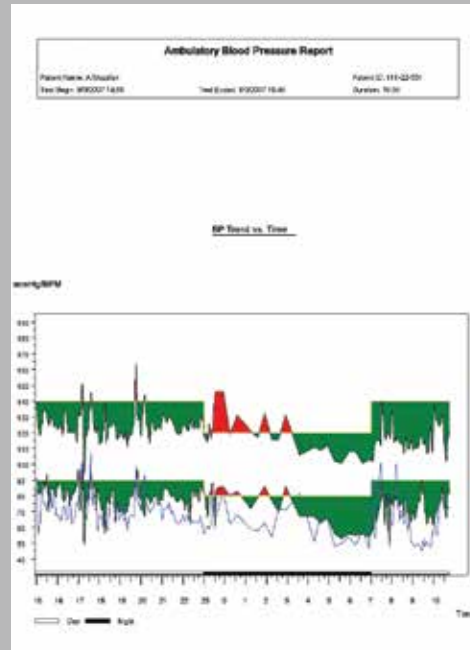
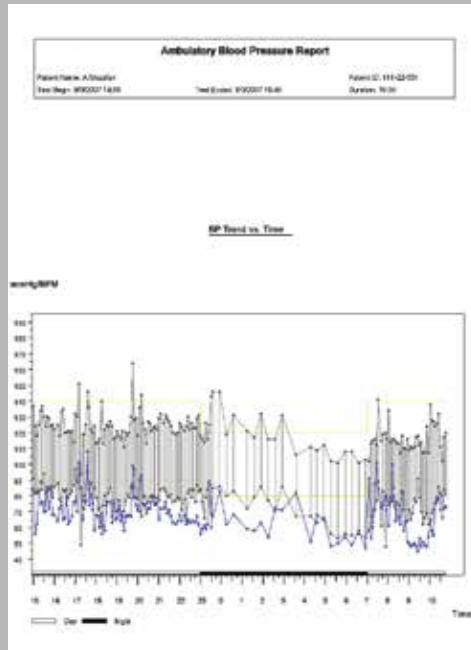
Features:

- Displaying and printing Histogram chart, Pie chart, Correlation Line graph, BP Trend graph, and Frequency Histogram chart according to the calculated Systolic and Diastolic blood pressure, and Heart rate.
- Variety of cuff sizes: Adult, Child, and Neonate
- Recording the Blood Pressure in 24 and 48 hours
- Internal rechargeable Li-Ion 2200 mA battery
- Possible to operate on neonates weighted less than 10 Kg
- Enabling and disabling display, and also recording manually via Event key for medical centers and commissions

Calculating capability:

- Overall Statistics Total Samples Used
- Awake Statistics Total Samples Used
- Asleep Statistics Total Samples Used
- 1 year guarantee for all inner components and accessories
- 3 years guarantee for internal battery
- 10 years of technical support
- Free installation and training for all medical centers in the country
- Weight with Battery: 320.3 g
- Weight with Bag: 386.2 g
- Dimensions: 35 × 140 × 90 mm





ECG Holter Monitoring

Calculating capability:

- New generation of ECG Holter Monitoring without patient cable, SD Card, and battery
- Recording 2, 3, and 12 channels of ECG signal up to 15 days
- Pacemaker recognition (compatible with patients with pacemaker)
- Possible to operate on neonates weighted less than 10 Kg
- Waterproof
- FDA Approved
- Easy operating in comparison with other similar devices for both operator and patient with the best adaptability with patients' body





Technical specifications

Analyze both 3 & 12 channels recorders	Yes
Enhanced ST analysis capability	Yes
Pacemaker analysis	Yes
Obstructive sleep apnea syndrome analysis (OSAS)	Yes
QT dispersion analysis	Yes
Heart rate variability analysis (time domain, frequency domain and Lorenz poincare plot)	Yes
Bundle Brach Block analysis	Yes
Atrial-fibrillation and atrial-flutter analysis	Yes
FCG CAD gram (12 channels)	Yes
SAECG (Signal averaged ECG) analysis (3 channels)	Yes
VCG (Vector cardiogram)	Yes
T-wave alternans analysis	Yes



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