FT-700(R/L) FULLY AUTOMATED BLOOD PRESSURE MONITOR

OWNER'S MANUAL

- ONE TOUCH operation
- WIDE LCD screen
- QUICK measure
- HIGH accuracy
- THERMAL HIGH SPEED printer
- VOICE message
- CARD using



TABLE OF CONTENTS

INTRODUCTION 1. INTRODUCTION	3 4
 TERMS OF EACH PART AND FUNCTIONS 1. FRONT PART 2. PRINTER 3. REAR PART 4. ACCESSORIES 5. OPTIONS 	9 10 12
 INSTALLATION 1. CONNECTING POWER CABLE(AC INPUT) 2. ASSEMBLING OF ARM SUPPORTER 3. LOADING THE PRINT PAPER 4. CONNECTING PORTS(RS-232C) 5. SETTING TIME AND DATE 	····· 13 ····· 14 ····· 14
MEASUREMENT 1. CAUTIONS FOR MEASUREMENT	····· 17 ···· 20
 MAINTENANCE AFTER SERVICE 1. AFTER SERVICE 2. PACKING AND TRANSPORT 	24
SPECIFICATION	
• WARRANTY	∠0

INTRODUCTION

We highly appreciate you choose this JAWON product.

You are kindly requested to be familiar with these directions before using this product and always keep it together with the product. In case you are not clear about any directions or problems arising while using the product, please contact our service center. We will provide you with detailed instructions.

1. INTRODUCTION

FT-700 (R/L) is a state-of-the-art medical equipment that can check not only blood pressure and the pulse rate but also Pressure Rate Product (PRP - an important index for the oxygen consumption of cardiac muscle) through a single process.

This machine will help to provide upgraded medical services for the patients since more accurate and reliable diagnosis is collected and suitable treatments can be arranged on the basis of these measured results.

FT-700 (R/L) is the fully automated blood pressure monitor armed with the belt-type cuff that facilitates the test time quicker and provides the results more reliable.

2. WORD DEFINITIONS

To ensure safe operation and long term performance stability, it is essential that you fully understand the functions, operating and maintenance instructions by reading this manual before operating your unit.

Particular attention must be paid to all warnings, cautions and notes incorporated herein. The following conventions are used throughout the manual to denote information of special emphasis.

WARNING

Important information to indicate the presence of a hazard which can cause severe personal injury, death of substantial property damage if the warning is ignored.

CAUTION

Important information to indicate the presence of a hazard which will or can cause minor personal injury or property damage if the warning is ignored.

NOTE

Important information to notify the user of installation, operation, or maintenance information which is important but not hazard-related. Hazard warning should never be included under the note signal word.

3. CLASSIFICATION AND COMPLIANCE

- 1) FT-700(R/L) is classified as;
 - Class 1 type-BF against electric shock
 - Ordinary equipment without protection against ingress of water
 - Equipment not suitable for use in presence of a flammable anesthetic mixture by standard of IEC 60601-1(Safety of Medical Electrical Equipment)
- 2) FT-700(R/L) are complied with Class A for Noise-Emission, Level B for Noise-immunity, by standard of IEC 60601-1-2(Electromagnetic Compatibility Requirements).
- 3) This blood pressure meter complies with the EN 1060-1: 1995 Non-invasive Sphygmomanometers general requirements as well as EN 1060-3: 1997 supplementary requirements for electro-mechanical blood pressure measuring systems.

4. SAFETY PRECAUTIONS

FT-700(R/L) is designed and manufactured with consideration given to the safety of the operator and subject and also to the reliability of the unit.

The following precautions must be observed for additional safety;

- 1) The unit must be operated only by, or under supervision of, a qualified person by JAWON or his distributor.
- 2) FT series are specified as Class 1 type BF unit under the standard of IEC 60601-1(Safety of Medical Electrical Equipment).
 - Therefore, patients must not touch or handle inner side of the system at any time.
- 3) Do not modify the unit. If any modification is desired, ask JAWON or its authorized dealer for service.
- 4) The unit has been factory-adjusted for optimum performance. Do not attempt to adjust any or switches except those specified in this manual for operation.
- 5) If you have experienced any trouble with the unit, switch it off immediately, and contact JAWON or its authorized dealer for assistance.
- 6) If you plan to connect any device of other manufacturers electrically or mechanically to this unit, contact JAWON or its authorized dealer for instructions before doing so. When you connect computer or other system to the unit(RS-232C), the attached systems should be certified by IEC 950 or equivalent standards for data processing equipment. Configurations shall comply with the system standard IEC60601-1-1.

Everybody who connects additional equipment to the signal input part or signal output part configures a medical system standard IEC 60601-1-1.

If in doubt, consult the A/S department of local distributor.

- 7) Avoid the following environments for storage;
 - Where the ambient temperature falls -5 °C or exceeds 50 °C.
 - Where the atmospheric pressure falls below 70 kPa(700 mbar) or exceeds 106 kPa (1060 mbar).
 - Where the humidity is over 85% non-condensing.
 - Where the unit is exposed to spray or splashing water.
 - Where the unit is exposed to dust
 - Where the unit is exposed to water vapor.
 - Where the unit is exposed to high density oil vapor.
 - Where the unit is exposed to salty atmosphere.
 - Where the unit is exposed to explosive gas.
 - Where the unit is exposed to excessive shocks or vibrations.
 - Where the angle of inclination of mounting surface exceeds 10 degrees.
 - Where the AC power line voltage heavily fluctuates
 - Where the AC power line voltage changes heavily when this unit is in operation.
 - Where the unit is exposed to direct sunlight.

Caution

Measurements may be impaired if this device is used near televisions, microwave ovens, X-ray equipment or other devices with strong electrical fields. To prevent such interference, use the meter at a sufficient distance from such devices or turn them off.

Note

Incorrect operation or failure of user to maintain the unit relieves the manufacturer or his agent of the system's non-compliance with specifications or responsibility for any damage or injury.

This manual is made for informational purpose and this manual and product are not meant to be a substitute for the advice provided by your own physician or other medical problem. You should not use this information contained product for diagnosis or treatment of health problem or prescription of medication by yourself.

If you have or suspect that you have a madical problem, consult your physician promptly.

Defective unit or accessories, must be packed in the replacement cartons, are shipped off from you to JAWON MEDICAL CO.,LTD.

Shipping and insurance costs for return of defective unit must be prepaid by you.

5. SAFETY SYMBOLS

The International Electrotechnical Commission(IEC) has established a set of symbols for medical electrical equipment which classifies a connection or warnning of any potential hazard. The classifications and symbols are shown below. Save these instructions for your safety.



Isolated patient connection (IEC 60601-1-Type BF)

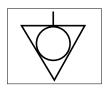


This symbol identifies a safety note.

Ensure you understand the function of this control before using it. Control function is described in operation manual.



I and O on power switch represent ON and OFF, respectively.



Identifies equipotential ground(located next to ground stud on rear panel) (IEC 417-5021).

▶ The following symbols are used inside the system :



Identifies the point where the safety ground of the system is fastened to the chassis.



Do not open. This is for factory only.

TERMS OF EACH PART AND FUNCTIONS

1. FRONT PART

1) START BUTTON

Press START button after ready to measure, the cuff will be wrapped automatically and begins to pressurize.

② STOP BUTTON

Press STOP button if you want to stop it during measurement. Pressurizing will stop and the air will exhaust from the cuff.

③LCD DISPLAY

It displays letters and animations during test processes, along with the results (systolic, diastolic, pulse, PRP) upon finishing examination.

(4) CLOCK SECTION (Date and Time)

On the right upper corner of the LCD screen, date and time are displayed.

(5) PRINTER COVER

It protects the printer.

⑥ AUTOMATIC CUTTER(printer paper let-out slot)

Printing paper is automatically cut off to let it out through the slot.

⑦ CUFF

It wraps and releases the arm automatically for measurement.

® ARM REST

When the arm is placed on the cuff, the arm supporter sustains the arm and makes the right position.

9 HUMAN SENSOR

When a user approaches, power is automatically turned on and vice versa.

10 CARD-READER

When card is inserted, it reads information in it and stores the measured results.

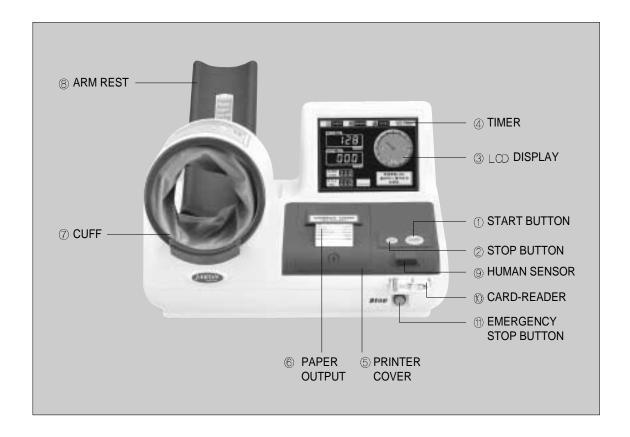
MEMERGENCY STOP BUTTON

When your arm is oppressed due to high pressurizing or irregular operation is done, press this button then the cuff will be exhausted rapidly.

Note

The cuff and the buttons(START and STOP button) of FT-700 are located at reverse side by R and L type.

FRONT PART



Note

Printer, card reader and human sensor are optional.

ID buttons are only attached to FT-750AF (R/L) model.

ID card can be issued either by the machine manager or by the manufacturer of the model.

The card can store ID number and measured results.

The card stores two previous measured results and can contain three measured results with the current one altogether.

When the model manager writes the card, please refer to the manual and specifications for operation and programs attached to the card writing device at the time of purchase.

2. PRINTER

1) PRINT button

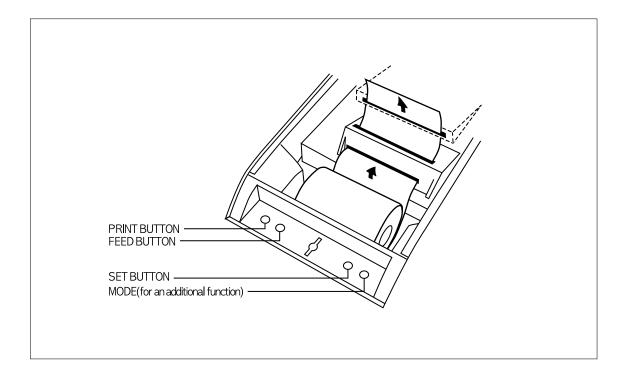
- Use it when you print out the data.
- If you set 「ON」 at the rear (PRINT ON/OFF switch), the data is printed automatically even you do not press PRINT button.
- Normally, when you press this button, all measured data after you turn the power on will be printed.(if you turn it off, all memorized data would be deleted.)
- When you set the date and time, the number goes up by pressing this one.

② FEED button

- Use this button for setting the paper
- When you set the date and time, the number goes down by pressing this one.

③ SET button

- set the date and time
- The functions are as follows when press this before or after measurement. (It does not work during measurement)
- Sequence is HOUR ightarrow MIN. ightarrow MON. ightarrow DAY ightarrow YEAR
- Within 5seconds, finish set of the date and time.
- See the page '15' for detailed method



3. REAR PART

① POWER

It is used to turn the power on and off.

② AC INPUT

It is used to connect with the power cord.

③ FUSE

Two (250V/1.6A) fuses are installed to prevent overload.

(4) CAL

This is only for inspection. Never open it.

(5) EARTH(POTENTIAL EQUALIZATION TERMINAL)

Please make sure for safety.

© COMMUNICATION PORTS (RS-232C)

Two ports are fixed, first for connecting between the main body and a computer or other equipment with cable(RS-232C) to transfer the data collected or measured, second for connecting between the main body and the coin slot with RS-232C cable to transfer the data

(7) SENSOR ON/OFF

Human sensor is turned on and off with the switch.

® SOUND ON/OFF

Music and voice output functions are activated with the switch placed to 「ON」, and vice versa.

ID card is usable when the switch is placed to 'ON, and vice versa.

10 PRINT ON/OFF

Measured results are printed out when switched to 'ON_J, and vice versa.

(f) VOLUME (ANNOUNCE ON/OFF)

It regulates volume output when switch is on while all volume is out at 'OFF'

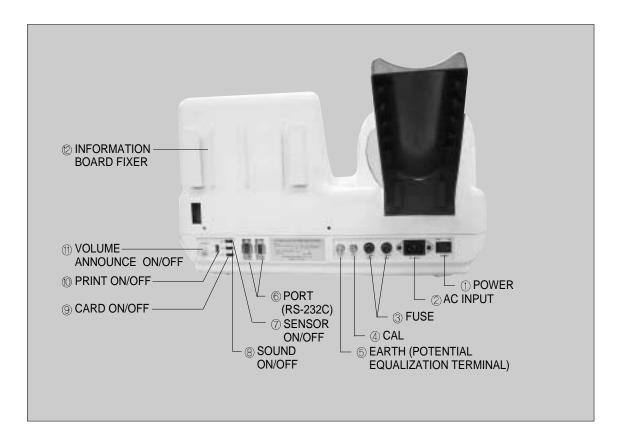
(2) INFORMATION BOARD FIXER

Fix the information board here.

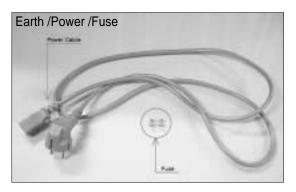
Note

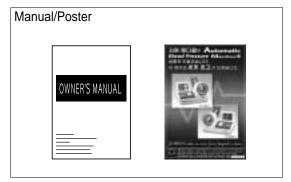
While sound switch is activated on (so sound is functioning), place the VOLUME ON/OFF switch to 「OFF」 for deactivation of voice message and music play.

REAR PART

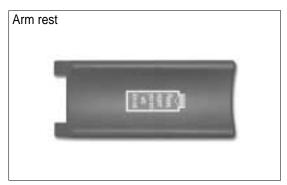


4. ACCESSORIES



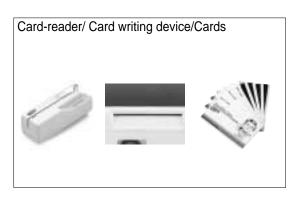




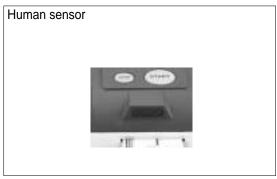


5. OPTIONS





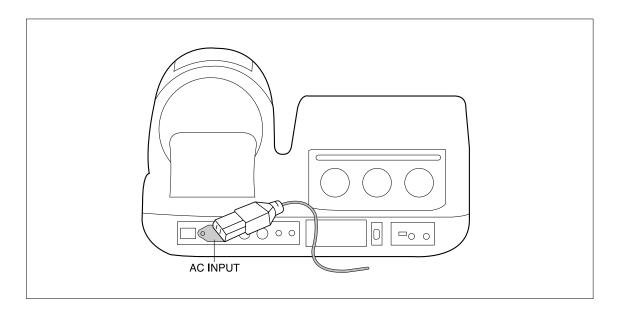




INSTALLATION

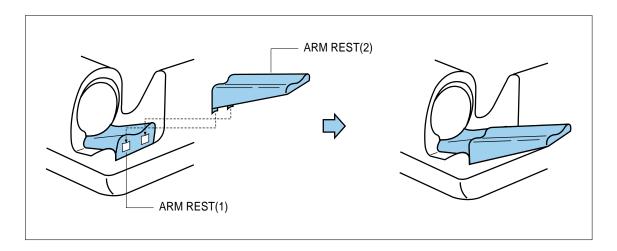
1. CONNECTING POWER CABLE(AC INPUT)

Just connect the power cable to the AC INPUT slot on the rear and turn the POWER ON/OFF switch(O/I) on the lower part of the rear(See the picture).



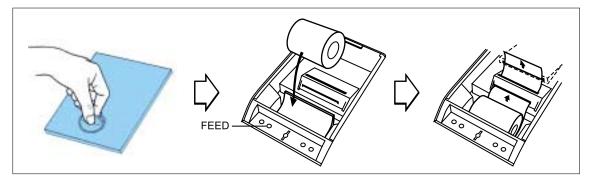
2. ASSEMBLING OF ARM SUPPORTER

The arm supporter consists of two parts. The first part (1) is attached to the main body when it is manufactured in the factory while the second part(2) is assembled to the first part as shown in the picture.



3. LOADING THE PRINT PAPER

- (1) Check and see if power is turned on.
- ② Turn the nut (with a driver on the groove in the middle) on the lower printer cover clockwise to 90 degrees and open the cover.
- 3 Load the print paper as shown in the picture.
- (4) Insert the paper edge deep under the black roll, then it comes out above the CUTTER.
- (5) Balance the paper in the right place.
- (6) Cut the paper by pressing the FEED button.
- (7) Close the cover and turn the nut counterclockwise back.



Note

Being thermal type, printing is photocopied on one side of the paper(slippery side), without using printing ink.

Please check remainder of the paper always and then replace it.

Please use exclusive paper (58mm).

Keep paper rolls in a dark and ventilated place.

Avoid any dust on the paper.

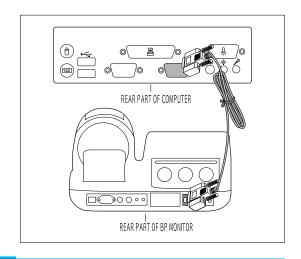
Do not pull the paper during printing. It could cause jam.

When printing paper is not loaded in correct place, it may cause the malfunction of the printer or paper will be shoved out.

4. CONNECTING PORT (RS-232C)

To transmit the data, connect a computer or other external options to the unit.

Connect the RS-232C cable both to port of the unit and to the computer jack or other external options. (See the picture)



5. SETTING TIME AND DATE

- · Turn the power of the unit on.
- · Open the printer cover.
- \cdot Sequence is HOUR \rightarrow MINUTE \rightarrow MONTH \rightarrow DAY \rightarrow YEAR

HOUR

Press the SET button. DATE and TIME will appear up and down with the line between them at the right upper corner. At the same time, another line appears above the first two numbers in TIME column, and these numbers indicate the hour.

The number goes up by pressing PRINT button and goes down by pressing FEED button.



MINUTE

After setting the hour, press the SET button again. The line appears above the second two numbers, and they indicate the minute. Adjust the minute as you did for the hour.

MONTH

After setting the minute, again press the SET button to see two numbers with the line above them in the DATE space, which indicate the month.

Regulate the month by pressing PRINT or FEED button alternately.

DAY

After setting the month, press the SET button again ,and there appears the number in the second column of DATE space with the line above the number.

It indicates day and PRINT and FEED buttons adjust days.

YEAR

After the day is set, press the SET button once more for the year appearing in the third column of the DATE space with the line above the number.

The number gains when PRINT button is pressed and it reduces as FEED button is pressed.

Note

If you want to measure blood pressure during setting the date and time, press STOP button, then you can measure again immediately.

You should set all data at once (hour, minute, month, day and year)

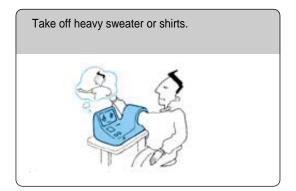
In case of stopping setting, the values return to previous ones which you have done before.

The calendar and time functions work without plugging power cord in.

Calendar program is inputted for 100 years. and it would be adjusted automatically even at a leap year.

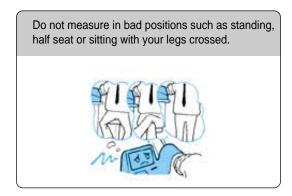
MEASUREMENT

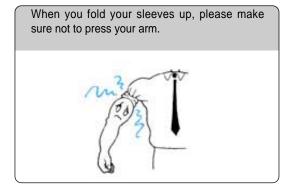
1. CAUTIONS FOR MEASUREMENT

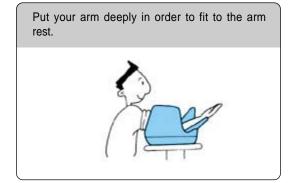


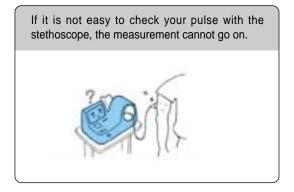
Before measurement, take it easy and have a rest for a while.













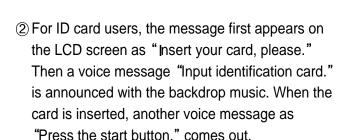
2. MEASUREMENT

1) Check the voltage and turn the power on

Note

With the human sensor attached optionally, the LCD screen is automatically turned on as it detects a user coming to the range.

The sensor should be placed 「ON」.



REAR FART



Note

For ID card using, the CARD ON/OFF switch (in the rear) should be turned on.

If the card is damaged or expired, the voice message comes out as "Can not use ID card."

In this case, purchase new one and try again.

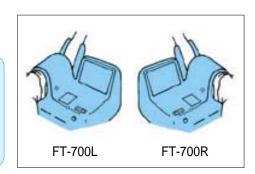
- ③ For non-ID card users, a background music flows as power is turned on, and there appears the stand-by scene on the LCD screen.
- (4) Place either the right arm or left arm into the cuff.

lace chiler the right aim of left aim into the cur

Note

Check the blood pressure with the right arm for FT-700R and the left arm for FT-700L. An optimal arm circumferance for this equipment is 9 " to 14 "



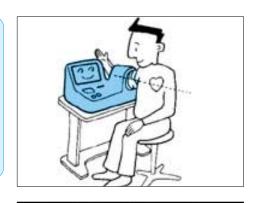


Note

Place your arm on the arm supporter with the palm facing up through the cuff deeply.
Adjust the height of the chair so that the arm is leveled off with the heart.
When the arm is placed lower than the heart, blood pressure will become higher than actual

⑤ Press the START button. Checking blood pressure begins as the cuff is automatically pressurized with the LCD screen displaying animations of the checking in process.

value, and vice versa.





Note

A voice message warns "Starting measurement, don't move or speak please." as the process begins.

Press the EMERGENCY STOP button

when the user feels pain on the arm with higher pressure or wishes to halt the checking

⑥ The LCD screen displays the results of checking upon finishing along with a voice message of "Measurement completed, pull your arm out please. Thank you." The cuff will automatically release your arm and resume the original position.





Note

When the measurement is not satisfactory, the voice message comes out as "Cannot measure, we will try again." At this time, let your arm stay into the cuff and start over again from the beginning.

The results are printed out, and a voice message also announces the results as "Your blood pressure is systolic 000, diastolic 000 and pulse 000."



Note

When the PRINT ON/OFF switch on the rear is set as off, the result will not be printed.

® Pull your arm out from the cuff.



When you want to measure one more time, press STOP button and start all procedures from the beginning.

Note

When the card is used, two data previously stored and the newly checked results are simultaneously printed out to make them compare for analysis.

3. DATA ON MEASUREMENT BY PRINTER

Results on printer paper

ID-NO0001
DATE02/03/2002
TIME06:04
SYSTOLIC124mmHg
DIASTOLIC084mmHg
MEANPRESS 075mmHg
PULSE075bpm
P.R.P9300

Normal Range

SYSTOLIC: below 139 mmHg
DIASTOLIC: below 89 mmHg
MEANPRESS: 74~106 mmHg
PULSE: 60~100 beats/minute

PRP(Pressure Rate Product): 7000~12000
Related with myocardial oxygen consumption

Note

The result of pressure rate product(P.R.P) is not displayed on the LCD screen but printed out on the paper.

Note

- · When pressure is high with the jammed air hose, message appears on the printer as ERROR PRESSURE.
- When the message is repeated, call for maintenance service.
- When pressure is low as air leaks, message appears on the printer as ERROR CUFF.
- When the message is repeated, call for maintenance service.
- When a testee moves or speaks while in testing, message appears on the printer as ERROR MEASURE.
- Try to retest after for a while. If the message is repeated, call for maintenance service.
- · A buzzer goes off once when error takes place, then the machine is ready for testing.
- When the machine does not work altogether, turn the power off and make sure if there is the fuse inserted and turn the power on and off a few times.

MAINTENANCE

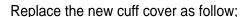
To ensure safe operation and long term performance stability, it is essential that you follow this maintenance instruction all the time.

The performance test should be done every 2 years to ensure that the device operates properly and safely at all times. It can be performed either by the manufacturer or by an authorized dealer according to the regulations governing manufacturing of medical products.

1. REPLACING THE CUFF COVER

Remove the old cuff cover as follow;

- (1) Remove the rubber molding which is located in the front of the arm insertion part.
- ② Press the start button, then the cuff will be wrapped.
 When the cuff is wrapped approximately half, turn the power off.
 The cuff cover will be strained.
- ③ Detach the cuff cover from the magic tape.(The location of the magic tape is as the picture.)
- ④ Pull the upper part of the cover down direction, and then pull out the ring of it very gently.
- ⑤ Turn the power on again, then the cuff will return the original status.
- 6 Pull out the rear ring.
- ¬ Remove the old cuff cover completely.



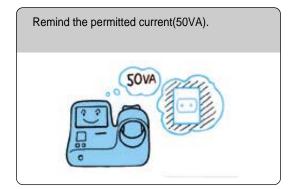
- ① Place the new one through the arm insertion part. At this time, the large ring is for front, and the small ring for rear. (The sewed part of the cover should be placed bottom.)
- 2) Press the start button and turn the power off again for half wrapping of the cuff.
- ③ Push the cover's rings into the body.
- Attach the cuff to the magic tape with pressing.
- ⑤ Fix the rubber molding like the beginning.

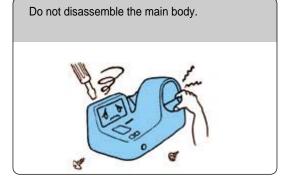
Note

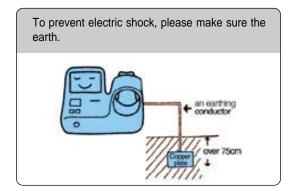
If the cuff cover is not placed properly, it may cause problems in operation.

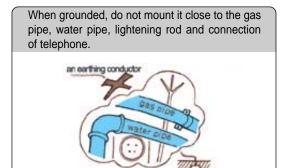


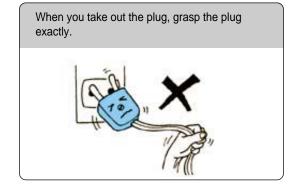
This unit is for 230V. If you want 110V, please contact to a service center.

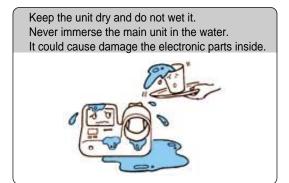


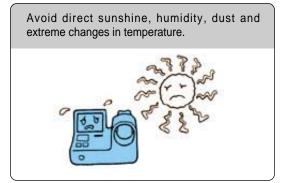




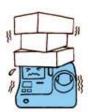








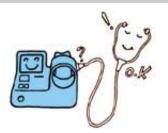
Do not put heavy things on the unit.



Wipe the unit with a damp cloth. Do not use benzine, alcohol or liquid similar to solvents and wet cloth.



Check the unit conditions occasionally.



Do not use the unit under the condition of shock or vibration.



Do not install and shock with chemicals or gas.



When you re-use after a long time, please check the unit carefully.



When some problems are found, please call our service center.



Note

When the cuff cover is dirty, wash it in the warm water with neutral detergent. If it worn out, replace with a new one.(Refer to "Replacing the cuff cover" on page 21)

When you sterilize the cuff, please use EO GAS sterilizer every 2 years.

AFTER SERVICE

1. AFTER SERVICE

If there is any problem with the unit, please follow the steps below;

- Contact the JAWON Overseas Service Department immediately.
 After gathering the model name, Serial Number, date of purchase and description of the problem, contact JAWON with information shown below.
- * Try to solve the problem over the phone with the local service department personnel.

 If the problem cannot be solved over the phone, just return to service department directly.
- * JAWON or local distributor will make available on request circuit diagrams, component part list, descriptions, calibration or other information which will assist your appropriately qualified technical personnel to repair those parts of unit which are designated by JAWON as repairable.

How to contact JAWON MEDICAL CO., LTD.

Write us at:

JAWON MEDICAL CO., LTD"

SEOUL OFFICE

JEONGJU BLDG 7F, 1451-38, SEOCHO-DONG, SEOCHO-KU, SEOUL, KOREA

TEL: 82-2-587-4056 FAX: 82-2-588-1937

FACTORY

13 LOT, 21 BLOCK JINRYANG INDUSTRIAL COMPLEX, KYUNGSAN CITY, KYUNGSANG BUKDO 712-830 KOREA

TEL: 82-53-856-0993 FAX: 82-53-856-0995

(You can also contact the following representative or your local distributor)

2. PACKING AND TRANSPORT

JAWON follows his packing ways to protect any impact during transporting etc. So please do not transport or move the unit without JAWON's packing condition as your wishes. The normal storage environment; - 5° C ~ + 50° C of temperature, Humidity is less than 85% non-condensing.

SPECIFICATION

Model	FT-700L	FT-700R	
Display mode	LCD display		
Measuring ranges	Pressure: 30 ~ 300mmHg, Pulse: 30 ~ 200beats/minute		
Accuracy	Pressure: ±2mmHg, Pulse:±5%		
Resolving Power	1mmHg		
Pressurizing method	DC Motor		
Cuff	Belt type		
Pressurizing time	Approx. 10seconds		
Measuring time	Approx. 33seconds		
Measuring method	Oscillometric		
Printer	Thermal high-speed printer		
Power supply	230V~/50Hz(EC), AC120V/60Hz(US)		
Power consumption	50VA		
Ambience for operation	Temperature: 10~40°C, Humidity: Less than 85% non-condensing		
Ambience for storage	Temperature: −5~50°C, Humidity: Less than 85% non-condensing		
Data transmission	RS-232C		
Dimensions	480(W) ×310(D) ×290(H)mm		
Weight	Approx. 11kg		
Measuring parts	FT-700L : with left arm	FT-700R: with right arm	

Note

- 1. It is convenient and useful, if you purchase a cart and a chair for FT series. Those are designed only for FT series so that can be placed anywhere.
- 2. An external appearance and specifications are subject to change without notice.

WARRANTY

WARRANTY

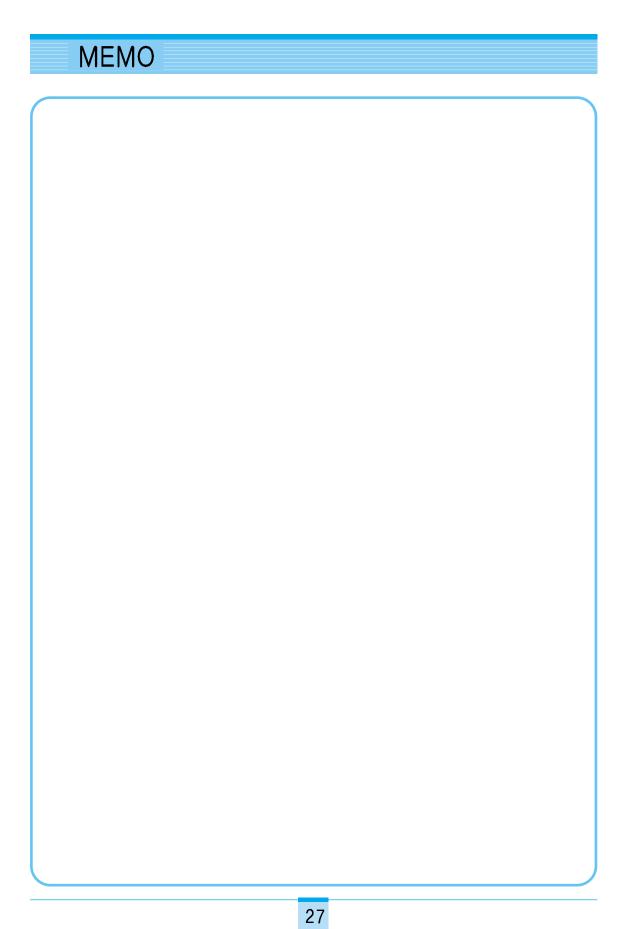
Item	Automatic Blood Pressure Monitor	Warranty period	
Model	FT-700(R/L)	1 year (main unit only)	
Serial NO.			

Date of purchase	Month	Day	Year	
Customer	Name:		TEL:	
Customer	Address:			
Doolor	Name:		TEL:	
Dealer	Address:			

Date	Defection	Confirmation

Note

- · When you receive this warranty, make sure that the name of the dealer and the month, day and year of purchase are all completed.
- · This warranty will not be reissued, please keep it in a safe place.





www.jawon.co.kr