

# **BIX/CPR 230**

## **Half-body Electronic CPR Manikin**

### **User's Manual**

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**(Shanghai Chinon Medical Model & Equipment Manufacturing Co.,LTD)**

**Email: [zhncpr@163.com](mailto:zhncpr@163.com)**

The 7th generation BIX/CPR230 CPR manikin is a new product which is developed

upon the requirement of Guide Standard of American Heart Association (AHA)2010 International Cardiopulmonary-resuscitation (CPR) & Emergency Cardiovascular Care (ECC) and it is the domestically leading product with advanced functions, beautiful shape and convenient application. The function characteristics of it are: simulating standard airway open, External Chest Compression, Respiration and other main functions and its operation procedures are divided into: training and test. Moreover, it owns great popularity among the clients both at home and abroad.

## **Operation Instruction of BIX/CPR 230**

### **I. Installation process of the manikin**

Firstly, take the manikin out from leather suitcase and then lie it on the operating platform, and then connect the controller to the power cord. Finally, connect the cable between the controller and the artificial human body. Thus all the connection processes are finished.

### **II. Function setting and application method before operation:**

After finishing connecting wires, turn on the power switch at the back of controller, at this time, the display will release voice indication: “*Welcome to use the manikin, please select working mode*”. The product possesses two kinds of working modes: ① training: user can carry out Respiration and External Chest Compression operation arbitrarily to get familiar with its technologies. ② Test: carry out operation according to the evaluation mode set up upon the latest standard.

After finishing the working mode selection, the voice indication will be released: “*Please press the button start*”. Operation can be implemented at this time.

#### **Other keying functions:**

**Reset function:** that means to select working mode and begin to operate according to the procedure. If it needs operation again due to unsuccessful operation or other reasons, please press button "start" for more than 3 seconds to reset and operate again.

### **III. Some specified actions and precautions to be grasped during the operation process**

1. Function indication of chest compression: firstly, find the correct position on the chest which is in the middle of the nipple line two-fingers width in the upper of sternum undercut ,and this is the correct compressing area. Overlap and cross two hands, and the arms shall be vertical to the chest compressing area of the manikin

to carry out chest compression. If both of the compressing area and strength are correct (the correct compressing depth is 5-6 cm), the green light will display and the correct compression number will be counted once. While if the compressing area is not correct, there will be voice indication: “*wrong compressing position*”. If the compressing area is correct while the compressing strength is wrong, the yellow light led of human body compression bar code lamp (insufficient) or red light led (excessive) will display with voice indication “not enough” or “*too much*” etc. The compression wrong number will be counted once. It needs to correct the mistakes to operate again.

2. Function indication of Respiration: while carrying out mouth-to-mouth Respiration, if the quantity of the insufflates air reaches 500/600-1000 ml, the green light will display(correct area) and the air-blowing correct number will be counted once. When the quantity of the insufflates air is less than 500 or more than 1000 ml, the yellow light will display(insufficient) or red one display (excessive) and the wrong number of blowing will be counted once with voice indication: “*not enough*” or “*too much*” etc. It needs to correct the mistakes to operate again.

#### **IV. Operation mode (special instructions: according to the latest revised standard of international emergency, the solo cardiopulmonary-resuscitation emergency standard procedure shall be implemented fully and the compressing frequency adopts 100 times/ minute.)**

1. **Training:** this operation means to make the students get familiar with basic essentials and various procedures of operation. When the functions are set up, the students can carry out Respiration or chest compression. There will be various types of functional digital display and voice indication to show whether the operation is right or not.
2. **Test:** the evaluation standard is established against the training staff. The students will take examination on the basis of grasping the emergency operation after operation training. There will be various types of functional digital display and voice indication to show whether the operation is right or not.

**Single evaluation will refer to the examination standard specification procedure operated by the computer steps:**



**Step1**---then carry out single person correct chest compression for 30 times (the compression display on the display will be 30)

**Step2**---carry out single person correct blowing for twice .

**Step3**---carry out correct chest compression successively for 30 times and 5 circulations (including one circulation in Step1 and 2) of twice correct artificial respiration (that is 30:2)

**Procedure4**---the correct compression on the display finally will be 150 and the correct air-blowing will display 10. That means the solo operation with procedure operation is successful and the person is saved.

## **Common Troubleshooting**

**Phenomenon ①: the equipment fails to start up or the voice indication shows that “*check the cable with the manikin and press'reset*”**

**[Inspection 1]:** inspect whether the power indicator is on

**[Inspection 2]:** inspect whether the cable of the manikin is connected

**[Inspection 3]:** inspect whether the plug of power cord is plugged or detached

**[Inspection 4]:** inspect whether the voice button switch is turned on

**[Inspection 5]:** inspect whether the protective tube is fusing

**Phenomenon ②: the controller display or the voice indication is abnormal after blowing**

**[Inspection 1]:** inspect whether the airway is open

**[Inspection 2]:** inspect whether the method of blowing is correct

**[Inspection 3]:** inspect whether the air inlet pipe is detached (after getting down the face skin, the white inlet pipe can be seen under the jaw)

**[Inspection 4]:** inspect whether the lung bag leaks (after getting down the chest skin, the white lung bag can be seen under the compression plate)

**Phenomenon ③: the controller display or the voice indication is abnormal after compression**

**[Inspection 1]:** inspect whether the connection wire of compression plate or the sensor breaks down

**[Inspection 2]:** inspect whether the compression extension spring in the sensor breaks down

**[Inspection 3]:** inspect whether there is some dust within the sensor

**[Inspection 4]:** inspect whether the compression position is correct

**[Inspection 5]:** inspect whether the compressing strength is correct

**[Inspection 6]:** inspect whether the compressing frequency is in accordance with the frequency requirements

**Phenomenon ④: insufficient compression language indications**

**[Inspection]:** open the chest and lift off the screws in the middle part, then press the black sensor under it by hands to check whether it owns elasticity. If yes, the fault is probably caused by the dusts. Please open the black sensor and then brush the dust clearly with brush. The screws shall not be too tight or loosen when installing sensor. It needs to restart after shooting the trouble.

**Phenomenon ⑤: no compression display**

**[Inspection]:** open the chest and lift off the screws in the middle part, then press the black sensor under it by hands to check whether it owns elasticity. If not, Please open the black sensor and change the spring in it. The screws shall not be too tight or loosen when installing sensor. It needs to restart after shooting the trouble.

**Phenomenon ⑥: there is no voice indication between the connection of host and simulated man**

**[Inspection]:** inspect whether the power cord falls out or not well plugged, whether the power is normal. Inspect the sound volume at the back of host to check whether it opens or is loosened. It needs to restart after shooting the trouble.