

Respirator Examination Instrument



Respirator Examination Instrument is automatic and controlled by computer to test the comprehensive functions of air respirators and breathing protection apparatus in other types. It's widely used in respirator maintaining stations in fire army, breathing protection products examining institutes and respirator manufactories to make comprehensive examination and assessment for respirators functions.

The examination processes of **respirator examination Instrument** are set by computer programs and operators can work using mouse button according to the computer window prompts. Choose the test parameters according to State Standards to control artificial lungs and simulate different breathing situations to make dynamic examinations and results automatically occur. The dynamic respiratory resistance curves and all examination results can be displayed on computers or printed, or saved in the database for use at any time.

Respirator Examination Instrument consists of examination heading die, artificial lung, computer, printer and high pressure main.

Heading die, used to test the examined respirator mask. It is set on the cover of artificial lung and its mouth connects the gaps of ripple tubes of artificial lung. There is a pressure sampling hole at the left eye of heading die to connect the low pressure sensor in the artificial lung, therefore test the pressure in masks and transmit data to computer.

Respirator examination Instrument can only be used to test the whole-mask respirators and can not be directly used to test the half-mask respirators, which can not cover the sampling hole in the left eye of examination heading die and pressure in masks while breathing can not be confirmed.

Artificial lung consists of electric motor, ripples tube and control electric circuit. There is a gap on the top of ripple tube connects the mouth of examination heading die, the instructions from computer controls the running of motor, which inhales and exhales by compressing connecting role or extending ripple tubes.

The front panel of enclosure of artificial lung has a power indicator and a switch to connect the power inside. The back panel of enclose has a power interface to connect power 220V. The data put-in/put-out interface is for data transmission between artificial and computer, while the sensor interface is to transmit data from low pressure sensor and high pressure sensor to computer. A high pressure interface is available at the left of enclosure to transfer the pressure of air tank to high pressure sensor through high-pressure main.

Work rate

Air quantity of exhaling or inhaling is controlled by the compressed or extended distance of ripple tube in artificial lung. For example: At the work rate of 30 liter/minute and 20 times/minute, 2 liters air can be inhaled according the distance for ripple tube downwards and almost the same volume air can be exhaled according the distance for ripple tube upwards. Work rate is controlled by air volume of exhaling or inhaling and breathing times per minute. According to Standard GA-124, there are three different work rates available for HX- II Respirator Examination Instrument:

- (1) 30 liters/minute, 20 times/minute: The work rate for self-rescue respirators
- (2) 50 liters/minute, 25 times/minute: The work rate for positive self-contained breathing respirators under extreme conditions.
- (3) 100 liters/minute, 40 times/minute: The work rate for positive self-contained breathing respirators under general conditions.

Above-mentioned three kinds of work rate are listed in the menu of operation software, operator can choose work rate accordingly and artificial lung will work with it.

In the meantime, as requested by items 6.6 and 6.7 according to Public Security Industrial Standard of P.R.C. (GA141-2001), the options of "Normal Temperature and High Temperature Test" & " Low Temperature and Low Pressure Test" are added in the menu.

1.4 Main Technical Parameters:

Pressure Test Accuracy:	±1%
Breathing Volume Accuracy:	±5%
Breathing Frequency Accuracy:	±5%
Dimension:	400 ×400 ×400 (head die is not included)
Weight:	25KG

1.5 Application Environment Conditions

Environment temperature:	0°C~40°C
Relative humidity:	< 85%
Power supply voltage:	200 V ~ 240 V 50 HZ Single phase <1 A