



# ES-BIOX300

Spirometer



DIAGNOSTICS



# ES-BIOX300

## Spirometer

### Measuring principle

The portable pulmonary function measurement instrument can be used to measure vital capacity (VC), forced vital capacity (FVC), Maximum Ventilator Volume (MVV). Measurement algorithm refers to the ITS, ERS standards of the American Thoracic Society (ATS).

When be normally breathing, the gas passed through the flow sensor.

On both sides of the screen of the sensor will produce different pressure.

The pressure is detected by the sensor, which is converted to electrical signals.

After the signal amplification, AD converter sampling, the pressure is converted to digital signal into the computer system.

Through digital signal processing and analyzing technology, computer system reproduces the breathing waves that are displayed on the LCD together with analyzed results.

In the end the built-in printer prints out the analysis results.

Single use filter, single use mouth set , nose clip

*The portable pulmonary function measurement instrument can be used to measure:*

- Vital capacity (VC)
- Forced vital capacity (FVC) Maximum Ventilator Volume (MVV).
- Measurement algorithm refers to the ITS ERS standards of the ATS.

*Measurement of breathing time:*

- VC time 50 seconds
- FVC measuring time 25 seconds
- MVV time 12 seconds in favor of the coordination between patients and the device

Adopting pressure-flow sensor sensitive precise easy to launder clean and durable

All parameters can be displayed on large screen(320 x 240)

Built-in memory can store maximum 300 cases of patient measurement results

The instrument can calibrate automatically all English operation more convenient to operate 110mm thermal printer built-in can print out a clear clinical report predicted value measured value. Compact and flexible.

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### Features

#### Measurement methods:

Flow velocity detection: Screen type pneumotachograph flow sensor

Capacity detection: flow integration

#### Measuring range:

Capacity range: 0L ~ 9L

Flow velocity range: 0 ~ 14L / s

#### Measurement accuracy:

Capacity: 0L ~ 1.6L ( $\pm 50\text{ml}$ ) / 6L ~ 9L ( $\pm 3\%$ )

Flow rate: 5% or 0.2L / s

Respiratory rate: 4 - 20 ~ / min ( $\pm 1$  / min) / 20 - 60 / min (error:  $\pm 5\%$ )

#### Measuring time limit and degree:

VC : 50s per time, measuring 3 times

FVC : 25s per time, measuring 3 times

MVV : 12 seconds per time, measuring 3 times

Display (LCD): 320 x 240 dot-matrix

printer: 110mm thermal printer

Data: 10 integral records

#### Other Note

Power: A.C. 100 ~ 220V 50/60Hz

The type of security: I Class B type

#### Transport and storage note:

Ambient temperature range:  $-20^{\circ}\text{C}$  ~  $55^{\circ}\text{C}$

Relative humidity range:  $\leq 93\%$

Atmosphere pressure range: 500hPa ~ 1060hPa

#### Working note:

Surrounding temperature range:  $10^{\circ}\text{C}$  ~  $+ 40^{\circ}\text{C}$ ;

Relative humidity range: 30% to 75%;

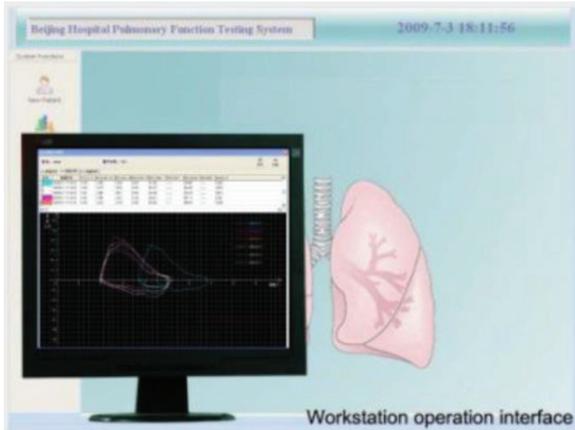
Atmosphere pressure range: 700hPa ~ 1060hPa



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## Option



PC Software for data transfer



Pulse oxymeter

CE



ESSE3 srl, Via Garibaldi 30  
14022 Castelnuovo D.B. (AT)  
Tel +39 011 99 27 706  
Fax +39 011 99 27 506  
e-mail [esse3@chierinet.it](mailto:esse3@chierinet.it)  
web: [www.esse3-medical.com](http://www.esse3-medical.com)

