

BIYOVENT  
THE FIRST MECHANICAL  
INTENSIVE CARE TYPE  
VENTILATOR DEVICE  
OF TURKEY



biosys  
NATIONAL MEDICAL SYSTEMS



BIYOCENT



Biyovent has been produced as a result of 4 years R+D study with the support of the Ministry of Science Industry and Technology, TÜBİTAK, Bilkent University Cyberpark.

The design, production and test process of 4 years has been successfully completed with joint study of engineers from the defense industry and physicians, who are familiar with advanced breathing physiology.



## BIYOVENT THE FIRST MECHANICAL INTENSIVE CARE TYPE VENTILATOR DEVICE OF TURKEY

**DESIGNED AND PRODUCED FOR  
INTENSIVE CARE UNITS.**

- Modern and ergonomic lines
- User friendly interface
- Perfect performance
- Traditional and innovative working methods
- Neonatal, pediatric and adult patient compatible
- Economical consumables and maintenance



# Biyovent Respiratory Therapy Equipment



## Ergonomic Design

- Design with elegant and modern lines,
- 180o rotary, 15 inch, high resolution, full touch screen,
- Touch-operated rapid access keys,
- Upper body, detachable from legs,
- Easy to use expiration valve,
- Protective and holder carrier arms,
- Impact resistant wheels



## Smart Safety System

- Smart Alarm Definition,
- Gradual Alarm Level,
- Adjustable Apnea Duration and Apnea Backup Mode,
- Proximal Flow Measuring,
- Leakage Compensation
- Cylinder Compensation,
- Comparable Sensor Measuring,
- Paramagnetic Oxygen Sensor,
- Monitoring of Patient Trend for 1 Week,
- System Logging for 1 Month,
- 2 Hours Internal Battery,
- +8 Hours Optional Battery,
- 5ms Valve Response Time,
- 100mbar Emergency Valve,
- 50mbar Automatic Expiration Discharge,
- IP22 Impermeability,



## Economic Solutions

- Consumables for Very Low Prices,
- Minimum Maintenance Costs,
- Autoclavable Expiration Valve,
- 3 Years Guarantee
- Quick and Qualitative Technical Service



Neonatal, Pediatric and Adult

Single Device Compatible with all Patients



Biogevent works compatible with all patients neonatal, pediatric adult women and men.



10cc low Vtidal and up to 150 breaths in a minute.



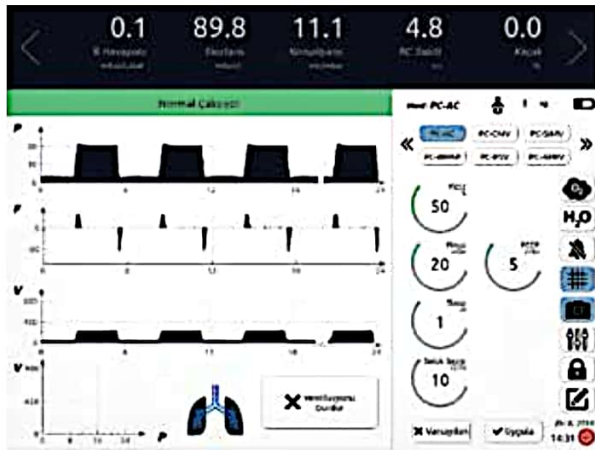
The patient can calculate elastance and compliance values precisely, correctly and rapidly.



It can provide leakage compensation up to 50% by modeling leakages at patient circuit.

Developed Adaptive Control

Biogevent uses developed adaptive control algorithms. It responds in milliseconds.



Biogevent works compatible with all patients neonatal, pediatric adult women and men.



Biogevent makes 16bit measurement at 1 KHz speed in 28 sensor channels in order to increase patient-device compatibility.



It is controlled by 4 processors for a quick and correct measurement and response to instantaneous changes.

Developed Adaptive

Biogevent can work with traditional and innovative modes.



Proven traditional modes and working modes taken newly place in the literature.



Pressure controlled Modes:  
PC-AC  
PC-CMV  
PC-SIMV  
PC-BIBAP  
PC-PSV  
PC-APRV



Volume controlled Modes:  
VC-AC  
VC-CMV  
VC-SIMV  
VC-MMV



Spontaneous Modes:  
SPN-PS  
SPN-VS  
SPN-PPS

# Biyoment Interface and Software Specifications

## 15 inch full touch screen

Biyoment shows the system data with a 15 inch high resolution screen and it provides ease of use with sensitive touch feature. Shows the data of the patient with a wide screen instantaneously and lets remote detection of alarm situations. Biyoment interface has a user friendly design. Biyoment provides ease of use for mechanical ventilator devices, of which use is known to be complicated.

## Biyoment shows 3 graphic, 1 pressure-volume cycle and dynamic state of lung

In order to submit the state of the patient to the operator more comprehensible, Biyoment shows instantaneous measurement data in graphics.

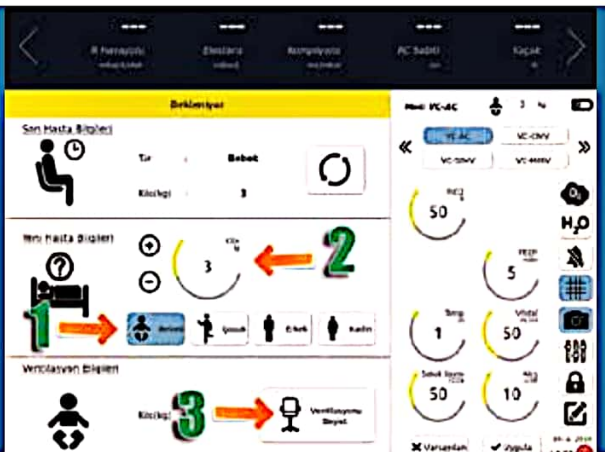
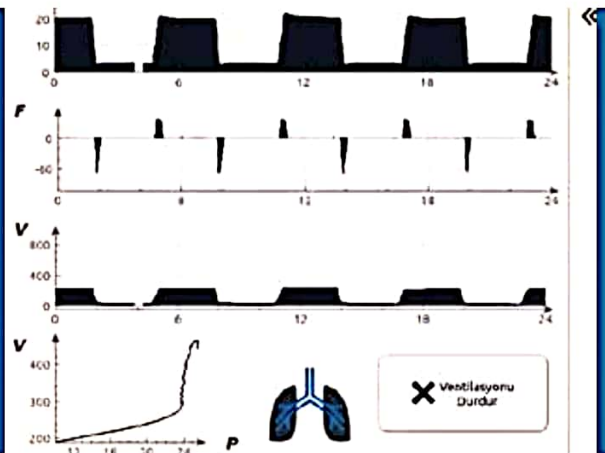
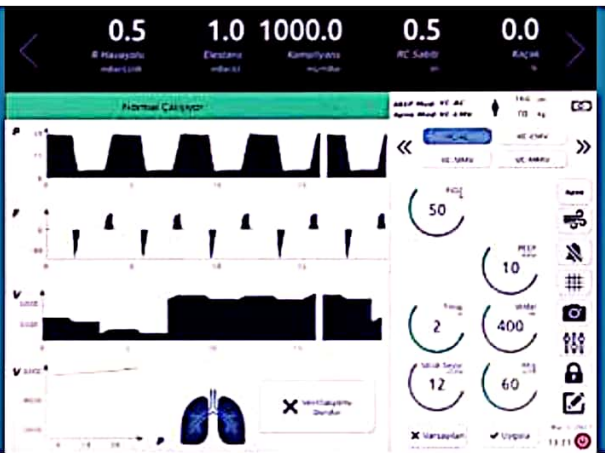
Graphics: Pressure-Time, Volume-Time, Flow-Time;  
Cycles: Pressure-Volume, Lung Dynamic Monitoring

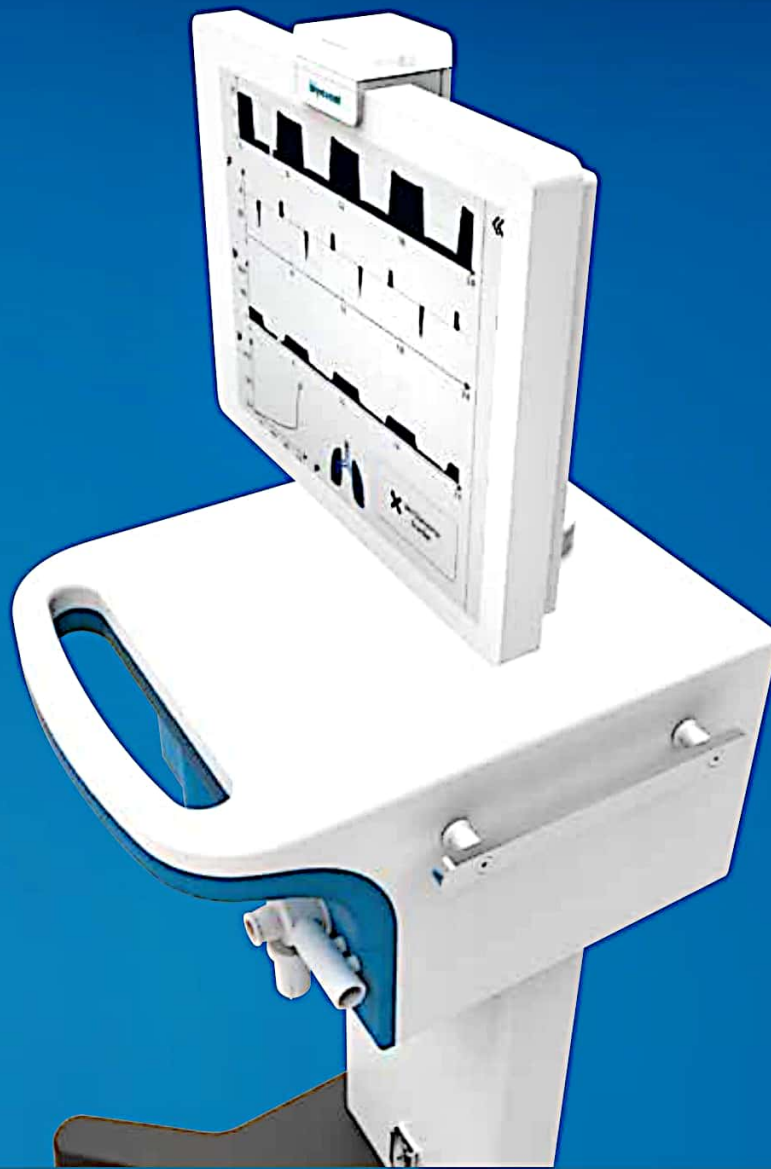
## Identify patient, the remaining will be made by Biyoment

The functions of Biyoment have been designed completely to help the patient. Identify the patient and let the remaining made by Biyoment. Get rid of senseless complication of mechanical ventilator devices of intensive care type.

## Gradual Alarm Level and Recognition of Automatic Alarm Limits

Biyoment adjusts the alarm levels gradually and provides ease of the control of the user. Mechanical, electronic and software safety systems are available. Through this, it provides comfort for patient, it ventilates for.





## Compatibility with Patient and Performance

Neonatal	Child, Pediatric	Adult
Number of Breaths: 1-150/min.	Number of Breaths: 1-150/min.	Number of Breaths: 1-100/min.
T inspiration: 0.1-10 sec.	T inspiration: 0.1-10 sec.	T inspiration: 0.1-10 sec.
Tidal volume: 0.01-0.1 L.	Tidal volume: 0.02-0.3 L.	Tidal volume: 0.1-3 L.
Flow: 2-30 L./min.	Flow: 2-30 L./min.	Flow: 2-120 L./min.
Triggering sensitiveness: 0.2-15 L/min.	Triggering sensitiveness: 0.2-15 L/min.	Triggering sensitiveness: 0.2-15 L/min.
Leakage and Cylinder Compensation	Leakage and Cylinder Compensation	Leakage and Cylinder Compensation
Invasive, Non-invasive ventilation	Invasive, Non-invasive ventilation	Invasive, Non-invasive ventilation