

# SYMONA 111

## Integral Monitoring System

### DELIVERY OPTIONS

#### STATIONARY



#### MOBILE



[www.symona.ru](http://www.symona.ru)

## **DESIGNATION**

«The system of integrated monitoring Symona 111» (hereinafter -- System) is a diagnostic hardware and software complex for non-invasive measurement of physiological indicators of the central and peripheral hemodynamics, respiration functions, body temperature, brain activity and metabolism status.

The main design elements involve computer and electronic measuring unit featuring 9 monitoring channels:

1. Rheocardiograph,
2. Electrocardiograph,
3. Photoplethysmograph + Pulsoximeter,
4. Non-invasive blood pressure monitor,
5. Body temperature monitor (2 channels)
6. Electroencephalograph,
7. Gas Module (CO<sub>2</sub> + O<sub>2</sub>),
8. Breathing mechanics module,
9. Metabolimeter.

As many as 123 indicators and their trends are monitored using 17 nomographic charts.

The principles of medical monitoring implemented in SYMONA 111 involve the following:

- Comprehensive evaluation of the status of the vital organs and systems;
- Multiparametric control;
- Continuous control;
- Small inertia - on-line monitoring;
- High accuracy in measuring parametric values;
- Intuitively simple use of pick ups;
- Retrospective analysis — storage and retrieving data;
- Comparative analysis with individual norm and/or past data;
- Information input using blood test results and other available data;
- Generation of test protocols and their printouts.

**For in-patients the System is used** for all categories of patients during intensive care, screening, pregnancy monitoring, during all kinds of surgery providing comprehensive information on the health status and pathology associated with the following:

- various types of shock (traumatic, burn, toxic - allergic, hemorrhagic, septic, cardiological);
- acute respiratory syndrome;
- unstable hemodynamics;
- artificial lung ventilation;
- hemodialysis and plasmapheresis;
- gestational toxicosis;
- cardiac distress;
- resistant hypertension.

The System helps conduct the energy and plastic patient support at the high level accounting for the current metabolism level.

- The System is designed for short and long term patient monitoring during transportation, in day care clinics and in various departments of the hospitals.
- The System can be used to monitor both adults and children.

**In sport medicine the System is used for the following:**

- To monitor sportsmen health status (in-depth screening);
- To obtain integral estimate of the functional status of the vital organs and systems: heart, lungs, central nervous system, brain, metabolism;
- Estimate of practice load;
- Control of rest and rehabilitation phase;
- Control of impact of medicines and food additives;
- Assay of diet (proteins, fat and carbohydrates);
- Medical treatment and trauma prevention;
- Screening candidates.

**The system is assembled in 2 versions:** as a stationary instrument (mounted on a trolley, weight 92 kg) and as a mobile model (featuring laptop, no trolley, weight 10 kg).

The contract for delivery includes training of medical staff, consulting on medical and scientific basics and the warranty service during 24 months.

### **SYSTEM FUNCTIONALITY**

- The System is capable of operating in semi-automatic and dialogue mode;
- The System brings to display all indicators in tabular and/or graphic forms, as well as shows their trends;
- The instrument allows introducing corrections in the measured data and processing;
- Storage and retrieval of the patient data, on conditions of medical check ups and test results is available for 30 years;
- The System simulates (forecasts) the outcome of medical and physical impact, as well as models various clinical situations;
- The System is capable of statistical processing of the data sets and runs retrospective analysis;
- The System has the function of flexible management of the content and generates various forms of the final protocols and medical reports;
- The System exports the data in spreadsheet format (Excel);
- The System generates screen shots and presentation slides (PowerPoint 2010).

## **SOFTWARE CAPABILITY**

The computer has following software installed:

- Operating system **Microsoft Windows 7**
- Office package **Microsoft Office 2010**
- Program of monitor studies **Promise 7.**

All software is licensed.

## **ARCHIVE**

All information on the studies is archived for 30 years.

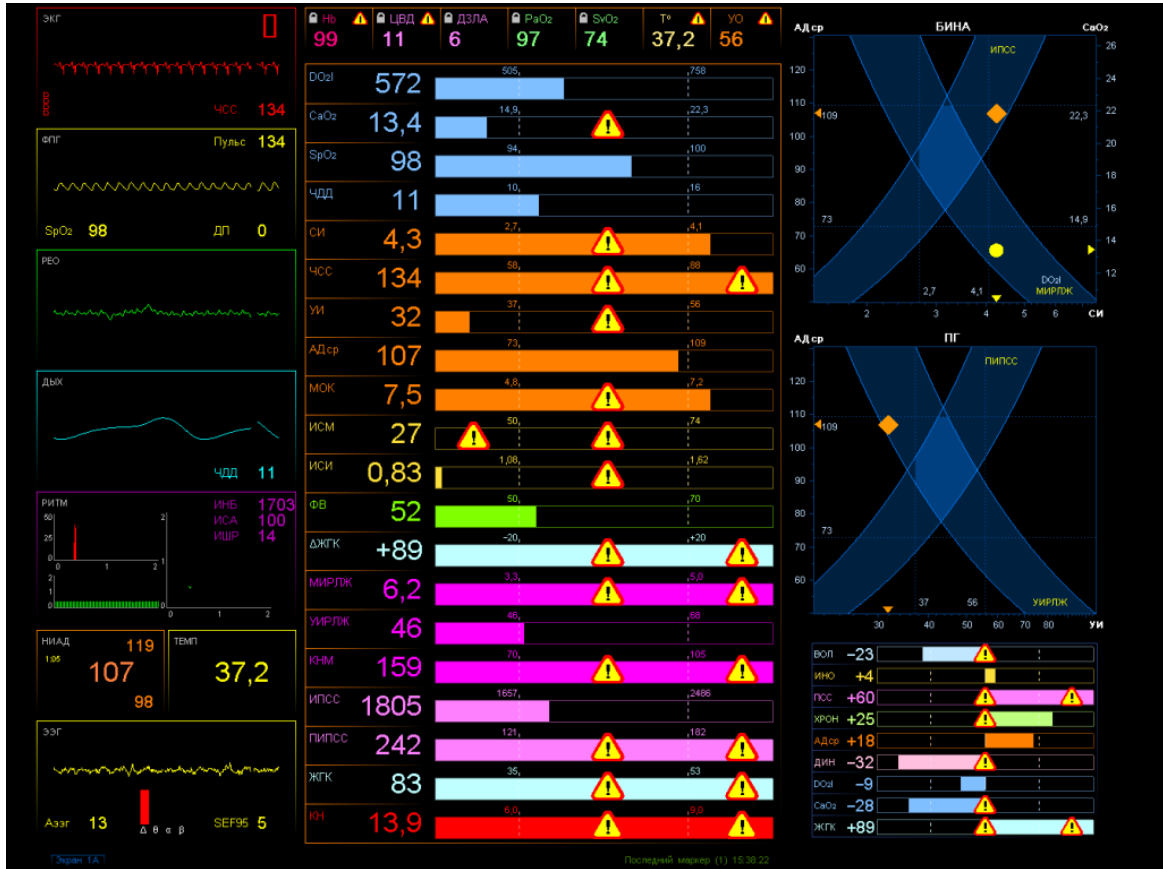
## **SIMULATION**

The System is capable of simulating the impact of various loads (medicinal, physical, etc.) onto physiological indicators of a patient.

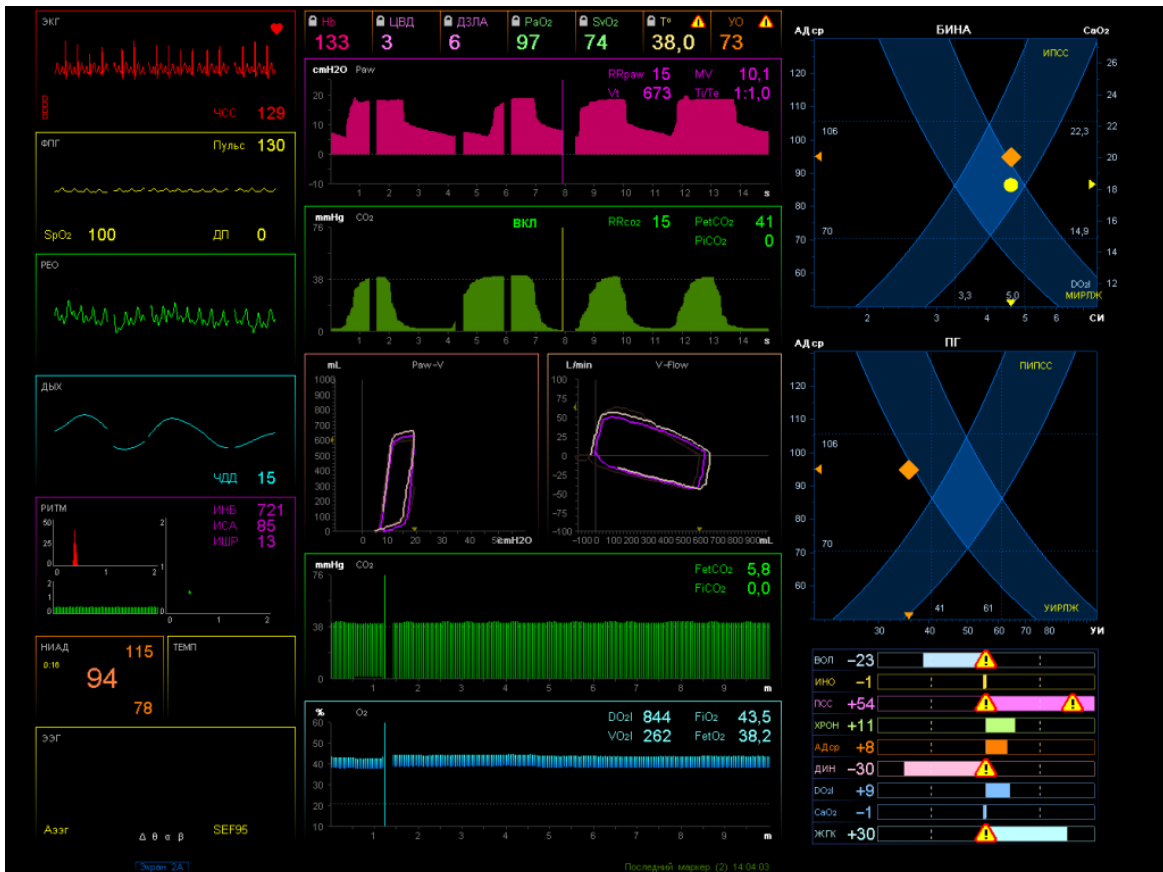
## **GENERATING REPORTS AND SCREEN SHOTS**

The System can provide various medical check up reports (protocols, medical reports) as Word files and can make screen shots.

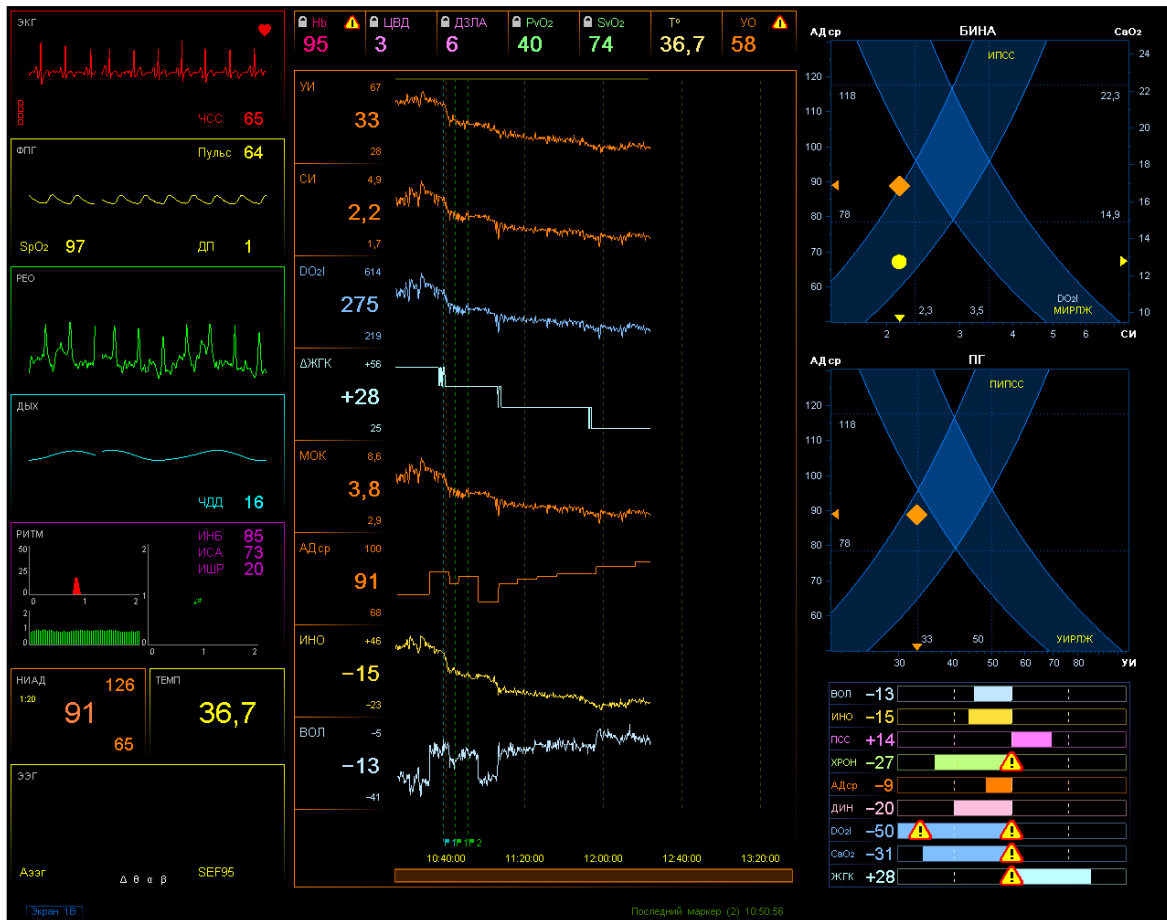
## Screen shots of the System display



Hemodynamics monitoring



Hemodynamics and breathing function monitoring



Trends

**In stationary model** all components of the system are located at a trolley (weight in working conditions being 92 kg). Power: AC 220 V, 650 VA. Operating time is unlimited.

**Mobile model** does not have a trolley. Weight in working conditions is 10 kg (without printer). Power: AC 220 V, 350 VA.

**MANUFACTURER**

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## General Director Page

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**The company** is involved in developing and manufacturing cutting edge computer equipment for medical monitoring. We are relying on assistance of both local and foreign consultants in the field of medicine, electronics and IT.

**The company** is active in research, consulting and educational activities among reanimatologists and anesthesiologists, doctors in sports medicine, cardiologists and physicians, including giving free master classes, seminars and lectures on request. Up-to-date information is published at web site [www.symona.ru](http://www.symona.ru)

**SYMONA** is the first to determine the status of hemodynamics regulators during hemodynamics monitoring: preload, postload and myocardial contractility. The System provides recommendations on controlling these indicators, sets forth the objective in practice load for sportsmen, determines the strategy in medication therapy for patients and reveals its therapeutical effect.

Given the age, gender, height, weight and the patient's body temperature **SYMONA** estimates the deviation of each parameter from the individual norm and identifies indicators that do not fit admissible range.

**SYMONA** helps identifying, evaluating and distinguishing pathological and compensation - adaptive body response for sportsmen or during acute or chronic diseases and trauma for patients. This facilitates finding the most accurate estimate of the health status and justified selection of sport practice load or the best medical treatment strategy.

**In contrast** to other monitors **SYMONA** gives the integral overview of the status of the vital body functions and systems which dramatically improves the doctor's ability in diagnostics and medical treatment.