



Reduced Oxygen Breathing Device 3 (ROBD3)

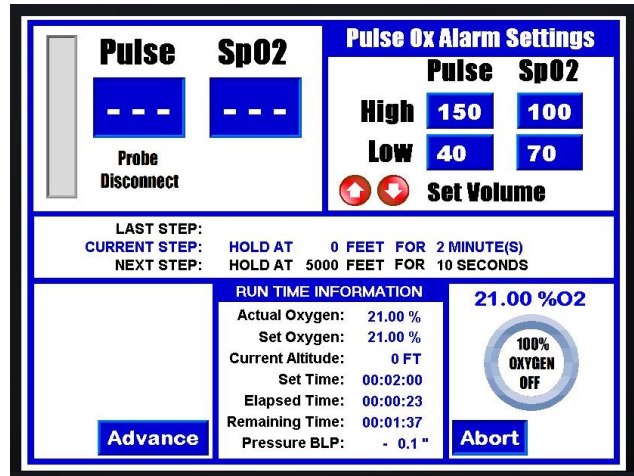
DESCRIPTION

The Model 6203 is the latest in the Envionics® line of portable gas-blending instruments used to produce hypoxia without changes in atmospheric pressure. Also known as the Reduced Oxygen Breathing Device 3 (ROBD3), units simulate altitude exposure can be utilized for both research and training purposes. Training aircrew with the ROBD facilitates recognition of the individual signs and symptoms of hypoxia and reinforces the performance of the appropriate emergency procedures. Units can be optimized to conduct hypoxia research through custom options. Frequently requested customizations include optimization for hyperoxia research or training as well as the capability to add varying CO2 levels.

The ROBD3 uses Thermal Mass Flow Controllers (MFC) to mix breathing air and nitrogen to produce the sea level equivalent atmospheric oxygen contents for altitudes up to 34,000 feet. The MFC's are calibrated on a primary flow standard traceable to the National Institute of Standards and Technology (NIST). The user interface is a large color touch screen, simplifying the use of the system for the field operator. Built-in self-tests verify all system component functionality before the operation of the system can begin. If any self-test fails, the system will not operate. The system is designed to work with bottled gases.

SAFETY FEATURES

- Designed to prevent over-pressurization of the subject's mask
- Monitors O2 to verify it is within the preset tolerance for altitude/level being requested
- Automatic recovery with 100% O2 if outside of preset limits or manually by pressing emergency O2 switch on front panel.



- Built-in self-tests verify all system component functionality before the operating the system.
- Multiple configurable audible and visual alarms

KEY FEATURES

- 0-34,000 feet elevation, 21-4.09% O2 levels
- Large touch screen user interface which integrates the unit operation and the pulse oximeter display
- Enter one consistent mask flow rate between 40 and 80 LPM for all altitudes
- Internal breathing reservoir, generating a fast refresh rate to the mask.
- Integrated pulse oximeter with finger probe
- Integrated oxygen analyzer
- Emergency Oxygen dump switch for manual delivery of 100% oxygen
- Non-consumable O2 sensor for reduced maintenance cost and down time

APPLICATIONS

- Aircrew training and research
- High altitude training and research
- Medical stress testing
- Hypoxia Simulator

SPECIFICATIONS:

Power Input: 110VAC to 220 VAC
EMI / RFI protected

Gas inputs: Standard: 1/4" FNPT

Pressure: Nitrogen and air: 40 psig
Oxygen: 20 psig

Optional: Rear panel keyed and colored quick connect fittings with SS braided hoses and dual stage pressure regulators.

<u>Regulator fittings</u>	<u>Color codes</u>
N ₂ : CGA 580	BLACK
Air: CGA 346	YELLOW
O ₂ : CGA 540	GREEN

Oxygen Dump: 100% oxygen dump switch to be activated by the operator.

Pulse oximeter: Built in pulse oximeter displays both pulse and SpO₂ with user selectable alarm settings.

SpO₂ (Oxygen Saturation)
Range: 0-100%
Saturation Accuracy: 70 to 100% ±2 digits
Display Resolution: 1%
Pulse Rate
Range: 0-300 beats per minute (bpm)
Accuracy: +/- 1% of full scale (for 1 standard deviation or 68% of sample distribution)
Display Resolution: 1 bpm

O₂ sensor

Range: 1 – 100% oxygen

Accuracy: Less than ±1.0% oxygen at constant temperature and pressure, when calibration in air and 100% oxygen

Resolution: 0.01% oxygen

O₂ Output range: User programmable for altitude / oxygen concentration and duration at each step from 0 ft to 34,000ft or 21-4.09% O₂

Incremental adjustment of altitude: 1 foot

Maximum ascent or descent rate: 1,000 feet per second

Minimum ascent or descent rate: 1 foot per minute

Breathing mask connector: MS 22058-1

Capacity: One Subject Under Test (SUT)

Remote Communications: Future release, Available upon request

Dimensions: Height : 12." (30.48 cm)
Width: 17.5" (44.450 cm)
Depth: 23.5" (59.69 cm)

Weight: ~45 lbs (20.4 kg)

Electrical Requirements:

110-120/220-240 VAC ±10%
(50/60 Hz) 55 watts

Model number: 6203

Performance Temperatures:

15° C to 35° C

Storage Temperature Range:

-10° C to 50° C

OPTIONS

- Shipping case with wheels
- Cart
- Dual stage regulators with braided SS hoses
- Additional finger pulse oximeter probes, ear pulse oximeter probes, MFCs, sensors