Monitor NOX Plus / Monitor NOX Plus SPMet®

Simultaneously monitors Nitric Oxide, Nitrogen Dioxide and Oxygen, also available with methemoglobin measurements by Masimo SET Rainbow® CO-Oximetry. Used in pulmonary hypertension treatment.

Monitor NOX Plus is a combined nitric oxide (NO), nitrogen dioxide (NO2) and oxygen (O2), based on electrochemical cells. Monitor NOX Plus SPMet model also features an advanced, noninvasive CO-Oximetry system which allows the monitoring of parameters such as peripheral oxygen saturation, peripheral methemoglobin saturation and pulse frequency.

The Monitor works either connected to the mains electric power line, or by its internal battery which provides an autonomy of up to 2 hours.

These Monitors were designed to monitor NO delivered to patients during Adult Respiratory Distress Syndrome (ARDS) and Pulmonary Hypertension therapies, also monitoring the fraction of inspired oxygen (FiO2). NO2 and SPMet, toxic sub products with no therapeutic value are also monitored.

Gas measurements resolutions are 0.1 ppm (NO and NO2) and 0.1 % (O2) and ranges are 0 - 100ppm (NO), 0 - 50 ppm (NO2) and 0 - 100% (O2). The measured gas is continuously sampled by a vacuum pump with constant flow of 300 mL/min in a sidestream configuration.

Measurements are displayed in a 5.6” colored touch screen LCD of easy visualization, with 640x480 pixel resolution.

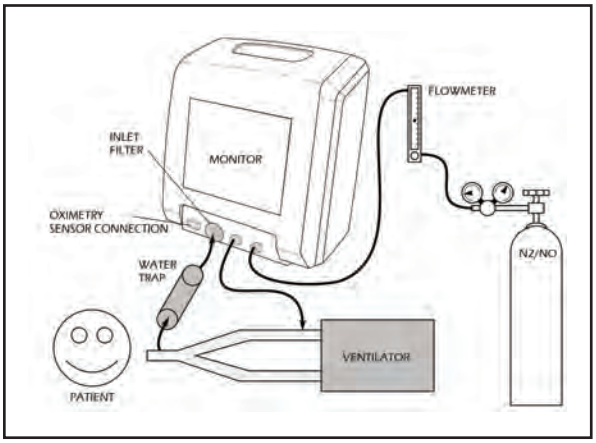
Trend data is stored in internal memory with capacity of up to 15 days of continuous monitoring and can be visualized in the LCD screen or sent to a computer via a USB port available in the rear side of the Monitor.

The Monitors include several alarms and security aspects, such as high and low level alarm for NO, high level alarm for NO2, high and low level alarm for O2, high and low level alarm for Pulse, high and low level alarm for SPO2, high level alarm for SPMet, occluded line alarm, security valve (that cuts the NO delivery to the patient in case NO readings indicate very high values), among others.The sampling gas flow is continuously measured and an audiovisual alarm is activated if by any reason the Monitor is not able to achieve the correct flow (for instance, if an occlusion occurs in the sampling line).
This assures that the sampling is leading to correct measurements.

$$FiO_2\,(max) = \left(1 - \frac{C_{NO\ Required}}{C_{NO\ cylinder}}\right) \times 100\%$$

$$NO\ Flow = \left(\frac{NO_{\ Patient} \times Fluxo_{\ Ventilator}}{NO_{\ cylinder}}\right) \times \frac{1}{FiO_2\,(max)}$$

For more information on Monitor NOX Plus and how to purchase, e-mail sales@zysense.com or call Zysense at (984) 999-0662.



The Monitors are based on electrochemical sensors (cells) that work thanks to chemical reactions of the target gas with the sensors electrodes and oxygen of the
ambient air. These reactions generate electric currents proportional to the gas concentration. The electric currents are measured by shunt resistors and then amplified, filtered and converted to be presented in the LCD screen.

Control Labels

1. Touch screen LCD
This is the interface between the user and the Monitor, which allows the configuration of the equipment and presentation of monitored parameters, alarms, trend graphs, settings, etc.

2. On / Off button
This button turns the Monitor on and off.

3. Oximetry sensor connection (NOX Plus SPMet model only)
The oximetry sensor allows the measurement, in real time, of Pulse, Oxygen Saturation (SPO2) and Methemoglobin Saturation (SPMet) in the patient's blood. The measurement of SPMet is very important during NO therapies, thus, being able to monitor this parameter in real time gives the clinicians an advantage when making decisions.

4. Sampling gas inlet connection (monitoring)
Connection for the inlet of sampling gas. The Monitor captures the gas using a vacuum pump at a constant flow of 300 mL/min.

5. NO outlet connection (safety valve)
Connection for the outlet of NO from the safety valve. This valve stops the NO flow in case a very high dose of the gas is measured by the Monitor.

6. NO inlet connection (safety valve)
Connection for the inlet of NO to the safety valve. This valve stops the NO flow in case a very high dose of the gas is measured by the Monitor.

7. USB connection
USB connection to allow stored trend data transfer to a computer.

8. Power supply connection
Connection to plug the external power supply unit, which powers the Monitor and recharges the internal batteries.

9. Sampling gas outlet connection (monitoring)
Exhaust connection of the sampled gas used by the measurement system. The exhaled gas has the same NO and NO2 concentrations that are sent to the patient, so it is important that this gas is not accumulated in the environment.