
Perma Pure™


maxtec

Maxtec MaxBlend 2 Training

2024

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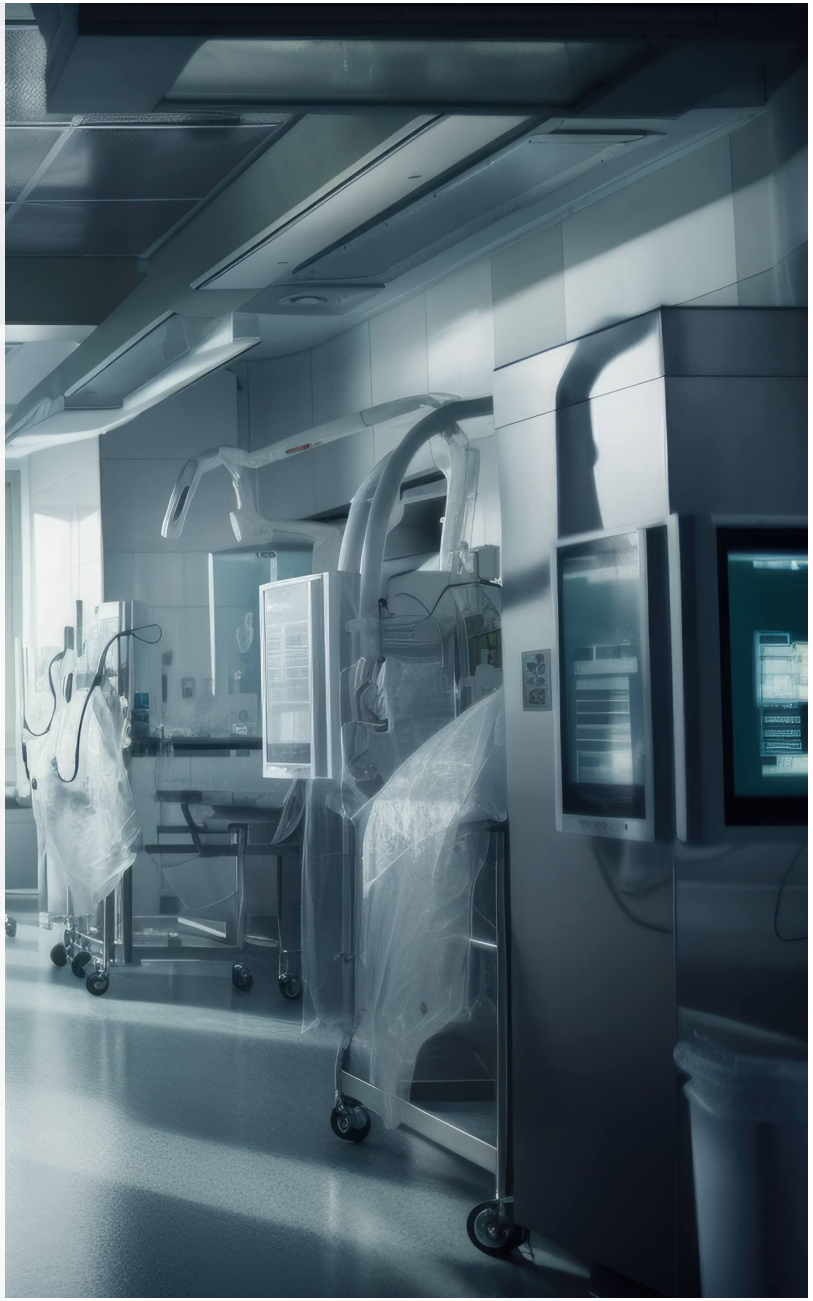


Solutions and Applications

Where You'll Find Us

NICU, PICU, PACU

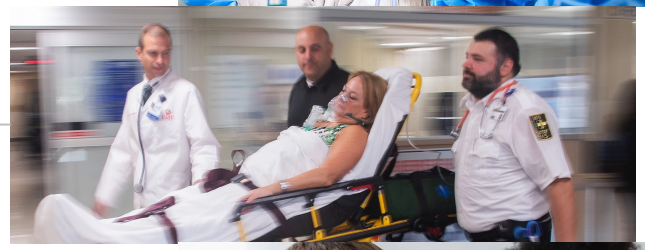
Inhaled Nitric Oxide Therapy & Pressure Monitoring

Operating Room

Anesthesia Delivery, Capnography & Oxygen Delivery

Emergency Room, ICU

Diagnostics, FiO_2 Monitoring & Inspired Oxygen Therapy

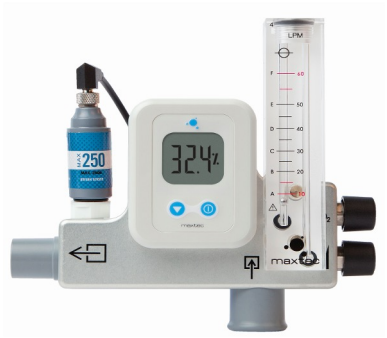


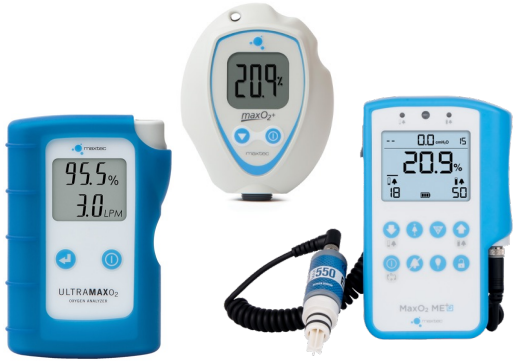
Clinical, Research, Lab Testing

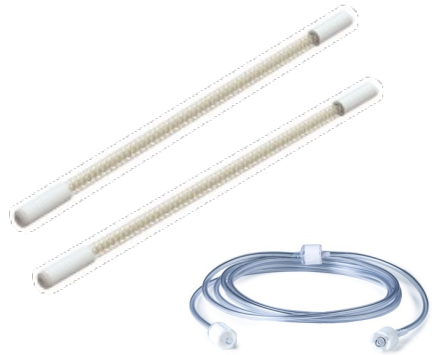
Breath & FeNO Analysis & Pulmonary Function Testing

Product Offerings

Medical Products







SENSORS

Measure the amount of oxygen in an environment.

BLENDERS & ANALYZERS

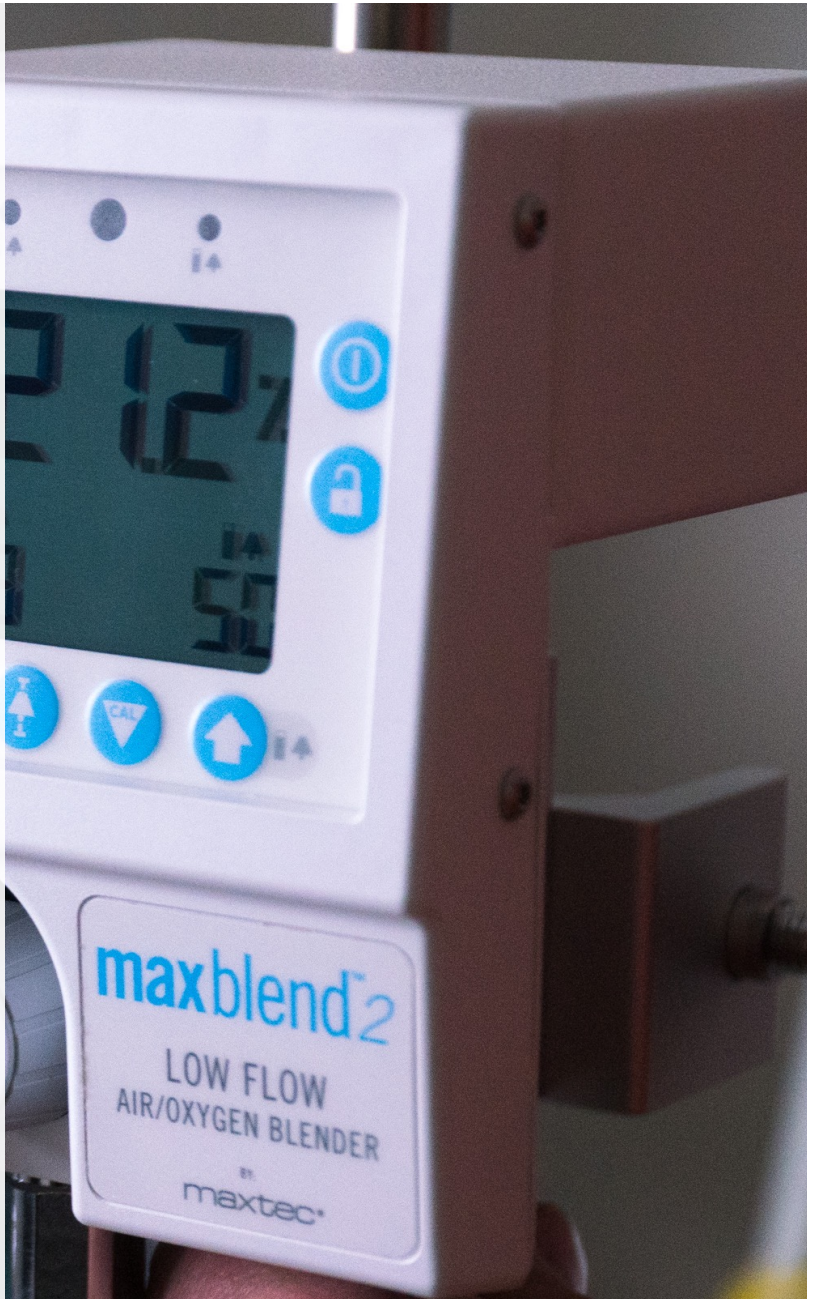
Deliver oxygen while analyzing flow, pressure, and/or FiO_2 during oxygen therapy in a hospital or homecare setting.

NAFION™ TUBING

Nafion™ tubing technology conditions breath samples during critical patient monitoring and breath analysis.

MaxBlend 2

Integrated FiO_2 Monitor,
Air-Oxygen Blender, & Flowmeter



MaxBlend 2 Resources

- Webpage
- Product Brochure
- IFU Manual
- Gas Savings Calculator

MaxBlend Gas Savings Calculator

How much can you save?

Use the calculator below to **see how much your facility might save** in the cost of wasted gas by using the MaxBlend 2 compared to using industry-standard blenders.

Flow Range
- (•) High Flow
- ( ) Low Flow

Number of beds with a blender

50

For all blenders, on average, what % of time are they in use annually?

0% — 64% — 100%

0 25 50 75 100

What % of in-use time are blenders delivering less than 3LPM (low flow) or 15LPM (high flow)?

0% — 28% — 100%

0 25 50 75 100

On average, what oxygen concentration is blender set to deliver?

21% — 41% — 100%

21 41 61 80 100

Cost of medical oxygen gas per cubic foot (Industry standard cost is $0.007)

$0.00700

Money wasted annually on O2 bleed w/ generic blender

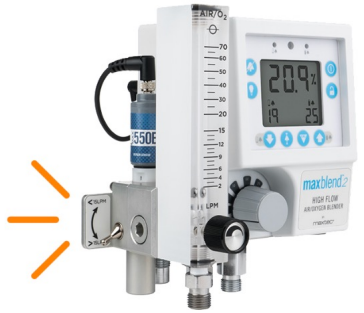
-$24,778.79

Money saved annually using MaxBlend 2 gas bleed switch

$19,688.79

Money saved per bed annually

$393.78



FAQs

- What is “gas bleed” when referring to air-oxygen blenders?
- Why do blenders need to bleed gas in order to be accurate?
- What is the downside of gas bleed?
- If a gas bleed is necessary in order for air-oxygen blenders to maintain accuracy when delivering oxygen to patients, is there anything that can be done to save on costs?
- What if the clinician forgets to switch the bleed control switch to the recommended setting during patient care?

Indications For Use

The MaxBlend 2 is designed to **provide a continuous air/oxygen gas mixture and to continuously monitor the concentration of oxygen being delivered** to **infant, pediatric, and adult** patients. It is a restricted medical device intended for use by qualified, trained personnel, under the direction of a physician, in professional healthcare settings, i.e., **hospital, subacute, and nursing-care facilities** where the delivery and monitoring of air/oxygen mixtures is required. This is not intended as a life supporting device.

Setup & Installation

Battery Installation

1. Open battery drawer by squeezing inward on both tabs.
2. Remove the battery drawer.
3. Install four new, “AA” batteries into the unit.
4. Slide drawer back in with the batteries facing upward.
5. Press in on the drawer until both tabs latch into place.

MaxBlend 2 Setup

1. Connect the pressurized air source to the Air Inlet Connector.
2. Connect the pressurized oxygen source to the O2 Inlet Fitting.
3. Flush gas at the highest possible flow rate through the blender for at least one minute to eliminate any particulate that may have been introduced into the system during handling and installation.

NOTE: The oxygen concentration knob allows the clinician to select a desired oxygen concentration from 21% to 100% O_2.

Sensor Installation

1. Attach the flow diverter onto the oxygen sensor.
2. Place the sensor into the sensor port located behind the flowmeter.
3. Attach the sensor cable directly to the sensor and the sensor jack on the back of the monitor enclosure. Ensure the cable is fully inserted into both connections.
4. Calibrate the sensor prior to use according to the calibration procedures in section 2.8 of the Instructions For Use and as detailed further into the training presentation (P23)

Alarm Setting Procedure

To Adjust Low Alarm Setting

1. Press the Unlock key to unlock the keypad. Note the LOW, SMART ALARM, CAL, and HIGH icons will begin to flash indicating the SET OPERATING MODE.
2. Press the DOWN (Low Alarm) key on the keypad.

NOTE: The Low Alarm digits begin to flash indicating the Low Alarm manual setting. Use the UP and DOWN keys to set the low alarm to the desired value. Pressing the arrow keys changes the value in 1% increments. If the keys are held down for more than 1 second, the display will scroll at a rate of 1% per second.

To Adjust High Alarm Setting

1. Press the Unlock key to unlock the keypad. Note the LOW, SMART ALARM, CAL and HIGH icons will begin to flash indicating the SET OPERATING MODE.

2. Press the UP (High Alarm) key on the keypad.

NOTE: The High Alarm digits begin to flash indicating the High Alarm manual setting. Use the UP and DOWN keys to set the high alarm to the desired value. Pressing the arrow keys changes the value in 1% increments. If the keys are held down for more than 1 second, the display will scroll at a rate of 1% per second.

Smart Alarm Mode

1. Press the Unlock Key to unlock the keypad. Note the LOW, SMART ALARM, CAL, and HIGH icons will begin to flash indicating the SET OPERATING MODE.
2. Press the Smart Alarm key on the keypad. Note the LOW digits, Alarm Mode and HIGH digits begin a slow flash indicating SMART ALARM MODE. The high alarm will now be set equal to the current oxygen reading +3% (rounded to the nearest integer). The low alarm will now be set equal to the current oxygen reading –3% (rounded to the nearest integer, but never lower than 18%.
3. Pressing of the UP key will add 1% to the high alarm setting and subtract 1% from the low alarm setting. Pressing the DOWN key will subtract 1% from the high alarm setting and add 1% to the low alarm setting. In other words, the UP key widens the alarm band and the DOWN key tightens the alarm band. This feature will not set the alarm levels above 100% or below 18%.
4. Once the desired alarm settings are attained, press the Unlock key again to save the settings and return to normal operation mode. If 30 seconds elapse without a key press by the user, the device will automatically save the latest alarm settings and return to normal operation mode.

Alarm Conditions and Priorities

ALARM	ALARM PRIORITY	LOW ALARM LED	HIGH ALARM LED	AUDIBLE ALARM	AUDIBLE ALARM REPEAT
Line Power Plugged In	Informational	Off	Off	2 Pulses	No Repeat
Line Power Unplugged	Informational	Single Yellow Pulse	Single Yellow Pulse	2 Pulses	No Repeat
External DC Power Supply Voltage Out of Range	Informational	Solid Yellow	Solid Yellow	2 Pulses	Every 15 Sec.
Battery Voltage too low for device to operate (E04)	Medium	Pulsing Yellow	Pulsing Yellow	3 Pulses	Every 25 Sec.
Oxygen/ pressure level above the high alarm setting	Medium	Off	Pulsing Yellow	3 Pulses	Every 25 Sec.
Oxygen/pressure level below the low alarm setting	Medium	Pulsing Yellow	Off	3 Pulses	Every 25 Sec.
Oxygen level below the low oxygen alarm setting and lower than 18%	High	Pulsing Red	Off	5+5 Pulses	Every 15 Sec.

- **A low alarm condition** will remain until the actual concentration is 0.1% higher than the low alarm setting.
- **A high alarm condition** will remain until the actual concentration is 0.1% lower than the high alarm setting.

NOTE: Alarm will sound if the gas supply pressures are out of balance (i.e. if being operated from a cylinder that is becoming depleted)

Calibration Procedures

To Calibrate to 100% Oxygen

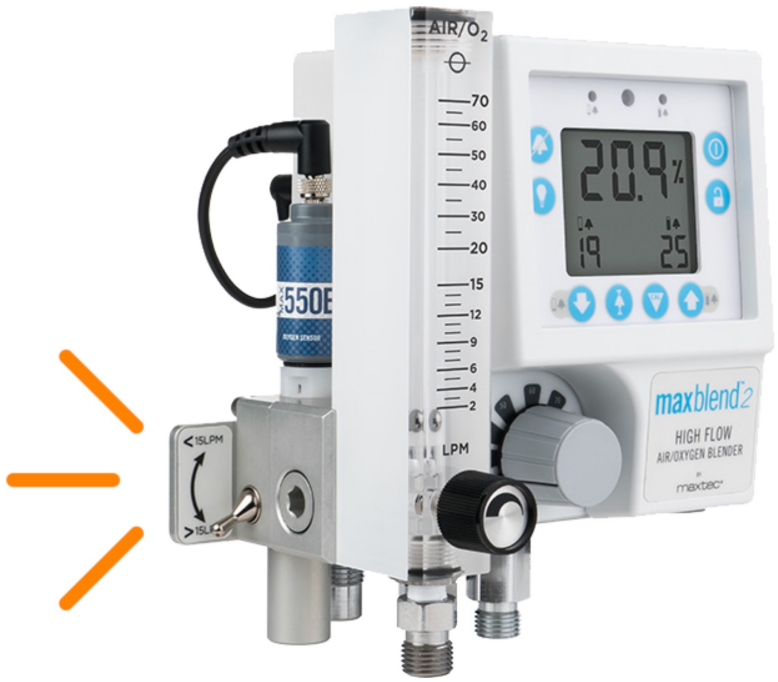
1. Connect the oxygen supply line (pressure differential alarm may sound). Verify the sensor is plugged into the O2 sensor port and connected to the sensor cable. DO NOT connect air supply line at this time.
2. Using the ON/OFF key, make sure the MaxBlend 2 is in the power on mode.
3. Rotate the FiO2 control knob to the 100% stop. Allow a few minutes for the reading to stabilize.
4. Press the Unlock key to unlock the keypad. Note the LOW, SMART ALARM, CAL, and HIGH icons will begin to flash indicating the SET OPERATING MODE.
5. Press the CAL (Calibration) key on the keypad. The word "CAL" will appear on the display for approximately 5 seconds and then finish with 100.0%.
6. The unit is now calibrated and in the normal operating mode.

To Calibrate to Room Air

1. Connect the air supply line (pressure differential alarm may sound). Verify the sensor is plugged into the O2 sensor port and connected to the sensor cable DO NOT connect oxygen supply line at this time. (If preferred, room-air calibration may be performed by removing the sensor from the O2 sampling port and detaching the flow diverter. If using this method, the gas-supply lines may remain attached.)
2. Using the ON/OFF key, make sure the MaxBlend 2 is in the power on mode.
3. Rotate the FiO2 control knob to the 21% stop. Allow a few minutes for the reading to stabilize.
4. Press the Unlock key to unlock the keypad. Note the LOW, SMART ALARM, CAL and HIGH icons will begin to flash indicating the SET OPERATING MODE.
5. Press the CAL (Calibration) key on the keypad. The word "CAL" will appear on the display for approximately 5 seconds and then finish with 20.9%.
6. The unit is now calibrated and in the normal operating mode.

Gas Bleed Toggle

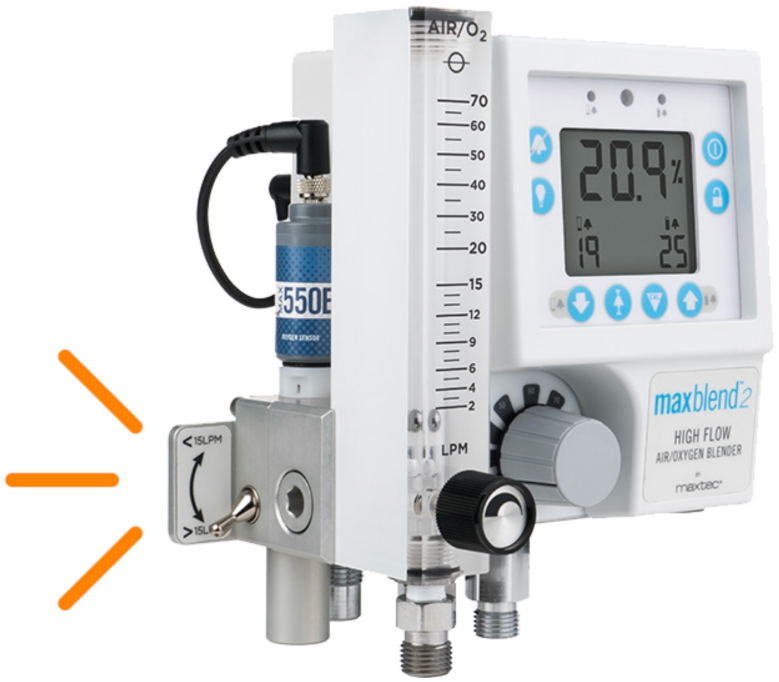
Why Have a Gas Bleed Toggle?



Air–oxygen **blenders "bleed" gas to maintain FiO_2 prescription accuracy** when delivering low flows. If a blender is connected to oxygen and air gas sources, it will bleed when idle *and* when in use on a patient.

To avoid wasting gas, a gas bleed savings mechanism was incorporated into the design of the MaxBlend 2 – **to save healthcare facilities money and resources** from wasted oxygen.

Using the Gas Bleed Toggle



When using a low flow (0–3 LPM, 0–15 LPM, or 0–30 LPM) MaxBlend 2:

- Bleed control switch should be switched to <3 LPM when delivering flows less than 3 LPM and when blender is not in use.
- Bleed control switch should be switched to >3 LPM when delivering flows greater than 3 LPM.

When using a high flow (0–70 LPM) MaxBlend 2:

- Bleed control switch should be switched to <15 LPM when delivering flows less than 15 LPM and when blender is not in use.
- Bleed control switch should be switched to >15 LPM when delivering flows greater than 15 LPM.

NOTE: Device will function, and monitor will remain accurate, regardless of gas bleed toggle settings (as long as it is calibrated correctly).

Cleaning & Disinfecting

1. Ensure battery drawer is closed and sensor/diverter are inserted into their port.
2. Using disposable Super Sani-Cloth germicidal wipes (medical-grade 2-in-1 cleaning/disinfecting wipes), remove all visible contamination from the external surfaces of the device and its accessories. Be sure to closely inspect and remove contamination from seams and recesses on the device that may trap contaminants. Wipe with clean paper towel to remove debris and bioburden.
3. After all visible contamination is removed, use a second germicidal wipe to thoroughly wet the surfaces of the device and accessories. Allow to remain wet for 4 minutes. Use additional wipes, if needed, to assure surfaces are wetted continuously for 4 minutes.
4. Allow device to air dry completely.
5. Visually inspect the device for visible contamination. Repeat cleaning/disinfection process if visible soil remains.

Service & Maintenance

- Maxtec recommends that the Performance Check listed in section 3.0 of the product IFU is performed **at least once a year.**
- Maxtec recommends that the MaxBlend 2 be overhauled and serviced at **a minimum of every three years.**

NOTE: If the performance of the device is in question, contact the hospital's Medical Engineering department or persons responsible for equipment maintenance.

To Replace O_2 Sensor

1. Remove the sensor from the sensor monitor port.
2. Remove the sensor from the sensor cable.
3. Install a new O_2 sensor with flow diverter and attach to the sensor cable.
4. Calibrate the sensor following the instructions for calibration listed in section 2.8.

Monitor Alarm Testing

Testing of alarms should be performed **on a yearly basis.**

- **To check the low alarm:**
  - Adjust the low alarm setting to 23%, or higher, and expose the sensor to room air (20.9%).
  - The low alarm LED should flash with the alarm sound.
- **To check the high alarm:**
  - Adjust the low alarm setting to 17%, or lower, and the high alarm setting to 18% and expose the sensor to room air (20.9%).
  - The high alarm LED should flash with the alarm sound. If one, or both alarms malfunction, contact a Maxtec Certified Service Technician.

Spare Parts & Accessories

Spare Parts & Accessories

DESCRIPTION	PART NUMBER
MAX550E Oxygen Sensor	R140P02-001
ACCESSORIES DESCRIPTION	
Monitor Cable	R228P49
Rail Mount Bracket	R100P09
Adjustable Pole Mount Bracket	R100P22
Pole Mount Bracket	R100P26
Compact Wall Mount	RP05P07
Maxtec-Approved Power Supply	R230P10
Wall Mount Large Bracket	RP05P09
10’ Dual Blender hose (DISS)	R129P01

Thank You

ViaMed Contact
Title
Email
phone