

A.- OPERATION AND MAINTENANCE INSTRUCTIONS

1.- Special Features

- A. Nebulizer System
- B. Oxygen Induction System
- C. Dual Access Doors
- D. Two Feeder Cups
- E. Feeder Cup Access Door Block Offs
- F. Vent Slot Block Off
- G. Door Lift Off Hinges
- H. Removable Perches (2 each)
- I. IV Tube Access slot and Bottle-bag holder
- H. Digital Temperature Control and Digital Humidity Readout



- CAUTION -

THIS EQUIPMENT MAY, AT TIMES, USE INDUCED OXYGEN. FIRE-FLAME-SPARKS OR OTHER FIRE HAZARDS MUST BE KEPT AT A SAFE DISTANCE AWAY FROM THIS EQUIPMENT WHEN OXYGEN IS IN USE.

CONTROL PANEL

TEMPERATURE

Displays

- A. Factory SET adjusted temperature
- B. Actual temperature within the liner
- C. Actual ascending & descending temperature
- D. Liner SET temperature

SET button

Allows the operator to call for TEMPERATURE display A,B or C, or to change SET temperature

POWER ON

Indicates electrical ON to the control

HEAT ON

Indicates heaters are ON



ARROW DOWN Changes down temperature

ARROW UP Changes UP temperature

HUMIDITY
Displays HUMIDITY within the liner

ALARM RESET
Sounds when the TEMPERATURE is more than 4 degrees from the liner SET temperature

B.- OPERATION

- 1.- The PRO-CARE 27 may be operated with or without induced oxygen, and/or the nebulizer system.
 - A. Basic Operation (ie. without oxygen and nebulizer)
 - B. Plug the unit into a 120 V 60 Hz. electrical outlet

NOTE: The unit should run a minimum of 3 hours, before any settings are made. This allows the temperature to stabilize.
 - C. The control panel will display the "FACTORY SET TEMPERATURE", ambient liner "HUMIDITY", POWER ON and HEAT ON if the "SET" Temperature is greater than the ambient temperature. The ALARM RESET will sound and blink if the SET and ACTUAL temperature difference is greater than 4 degrees fahrenheit. To silence the alarm just push the ALARM RESET.
 - D. To establish the desired liner operating temperature "T", push the "SET" pad 1 time. This will display the current ambient "T". Using the UP or DOWN buttons, set the desired operating "T". (The sequence of events is as follows: Plugging in the unit will cause the control to display 94° or 96° This is the factory set "T". Pushing the "SET" pad changes the display to the actual ambient "T" within the liner. This "T" is changed to the desired operating "T" by pressing the "UP" or "DOWN" arrow pad.) Because of the difference between the desired operating "T" and the ambient "T" the alarm may sound. Press the ALARM RESET to silence the alarm.
 - E. During operation the HEAT ON light will be ON and OFF showing the heaters are operating to reach the SET operating temperature. The alarm may sound until the difference is less than 4°. Depressing the ALARM RESET pad will silence the alarm.°
 - F. The unit should be allowed to run to reach the SET operating "T" before use. (The time necessary to reach the SET "T" depends on many factors, some of which are: Ambient and differential "T", Humidity, Open and closed ports, Nebulizer and/or Oxygen use, Unit Location, etc.)

2. NEBULIZER SYSTEM

- A. Attach the nebulizer bracket to the door.
- B. Fill the nebulizer bottle with water, for humidity only, or with the medication to be dispensed.
- C. Slide the nebulizer bottle into the bracket hole and attach the tube from the bottle through the door hole.
- D. Attach the hose connector to the nebulizer connector. CAUTION: There is a push lock on the connector.

Do not try to pull the hose from the connector without depressing the lock.
- E. Set the amount of water/medication desired by the graduations on the bottle neck.
- F. Be sure to put "CABINET OXYGEN-NEBULIZER OXYGEN" switch in the down position with oxygen attached. (See paragraph 3).

CAUTION:

If the switch is not on the "NEBULIZER OXYGEN SWITCH DOWN" position, pressure will not be created in the nebulizer bottle and no flow from the bottle to the cabinet will occur.

G. The amount of nebulizer flow may have an effect on the humidity. If a specific humidity is required, adjusting the nebulizer bottle will affect the humidity. Additional humidity can be created by filling the feeder cups with water, and/or a separate water basin set in the unit.

3. OXYGEN SYSTEM

CAUTION

As with any oxygen system, a danger exists if fire, flame or sparks are within the vicinity of the oxygen. Therefore, assure that the immediate area around the PRO-CARE 27 is free of fire, flames or any type of potential ignition source.

- A. Connect the oxygen source to the oxygen connection in the back of the PRO-CARE 27 cabinet.
- B. Set the oxygen outlet pressure not to exceed 55 PSI.
- C. Adjust the green flow meter on the front panel of the unit to the "MINIMUM FLOW RATE".
- D. Set the "CABINET OXYGEN" switch to the "SWITCH UP" position.
- E. Turn the oxygen flow meter knob to allow the amount of oxygen desired up to 12 LPM (Liter per minute). Should the actual oxygen concentration wish to be known, an "Oxygen Analyzer" is available for purchase. Refer to our catalog.
- F. When the need for oxygen is finished, turn the oxygen pressure valve off first. Turn the outlet pressure valve off and disconnect the hose from the PRO-CARE 27 fitting. By disconnecting the oxygen supply hose, this assures that there will be no residual oxygen in the PRO-CARE 27 system.

4. RE-CALIBRATING THE PROCARE 27 CONTROLLER

The controller, temperature sensor, and connecting wire in your Pro Care 27 AICU were calibrated, as a set, prior to installation, using a temperature calibration unit to ensure that the controller display and the temperature sensor were matched exact. If you believe that the Pro Care 27 controller is not displaying the temperature accurately, you can verify and reset the temperature display as follows:

You must use a mercury filled thermometer of certified accuracy or a digital thermometer that is very accurate.

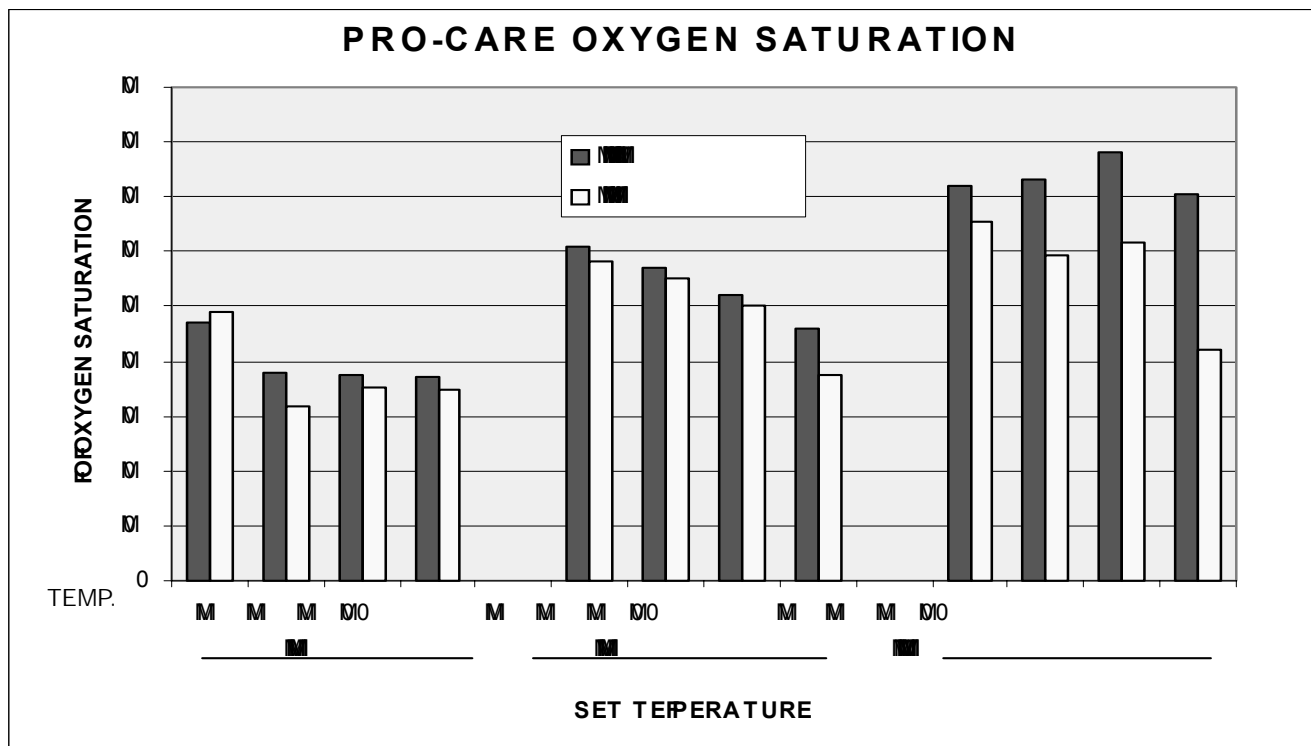
1. Place the thermometer in the center (left to right and front to back) of the Pro-Care 27. Place it on a support so that it is approximately six to eight inches above the floor.
2. Turn the Pro Care 27 on, close the door securely, and set the temperature to the desired reading. Allow the unit to run, without changing the set point, for at least several hours.
3. Observe the reading on the thermometer.
4. If the Pro Care 27 display does not agree with the thermometer:
 - A. Set the unit temperature to 97 degrees Fahrenheit. Let the unit stabilize for a couple of hours.
 - B. While pressing the "SET" (Temperature) button, press the Up or Down Arrow button until the temperature readout matches the reading of the test thermometer inside the unit. Each push of the Up or Down arrows is equivalent to .5 degree.
5. Check the thermometer and the Pro Care 27 controller display after 2 hours. If they are equal, you are finished.
6. If there is still a significant difference (>2°F), then repeat step 4, above.

To calibrate the Humidity reading you must use inside the unit either a digital hygrometer or a wet bulb hygrometer that allows you to convert to the relative humidity percent.

1. Place the hygrometer in the center (left to right and front to back) of the Pro-Care 27. Place it on a support so that it is approximately six to eight inches above the floor.
2. Turn the Pro Care 27 on, close the door securely, and set the temperature to the desired reading. Allow the unit to run, without changing the set point, for at least several hours.
3. Observe the reading on the hygrometer.
4. If the Pro Care 27 display does not agree with the hygrometer:

While pressing the "ALARM RESET" button, press the Up or Down Arrow button until the HUMIDITY readout matches the reading of the test hygrometer inside the unit.
5. Check the hygrometer and the Pro Care 27 controller display after 2 hours. If they are equal, you are finished.
6. If there is still a significant difference (>2%), then repeat step 4, above.

OXYGEN SATURATION



(Attachment to Bulletin 281-228)

The Pro-Care 27 unit has undergone extensive testing to determine the oxygen saturation at flow rates of 4, 6, and 12 LPM at a supply pressure of 55psig. A chart is included above so that the user may determine the approximate oxygen saturation at various flow rates (LPM).

Conditions affecting saturation include the following:

1. Operating temperature.
2. Ambient temperature
3. Vents open vs. closed.
4. Oxygen flow in LPM, from 1 to 12.
5. Body heat coming from the patient.
6. Number of times that the doors or access panels are opened.
7. Location of the unit (in direct sunlight or in a cool location).
8. The amount of humidity in the room.

Temperature set point of the unit will also effect the oxygen saturation. In general (refer to the chart above): at temperatures from 84° F to 100°F, with a flow rate of 4 LPM, oxygen saturation varies from 72% to 27%, with 6 LPM saturation varies from 61% to 27%, and with 12 LPM, oxygen saturation varies from 47% to 27%.

If precise measurement of % oxygen is required, Lyon Electric Company sells an oxygen meter. Refer to our catalog, or call our Sales Office.