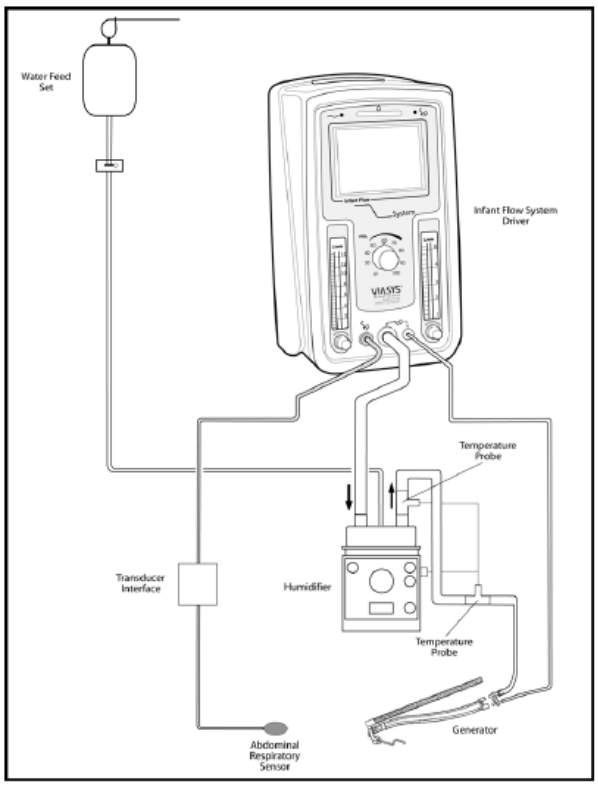
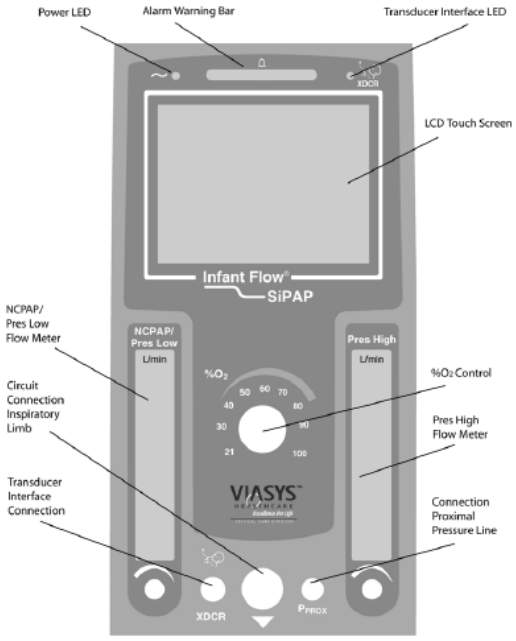
SiPAP Set-Up

- Plug into mains, air & O_2, then setup the circuit as shown below
- Set-up & test **before** spiking water bag



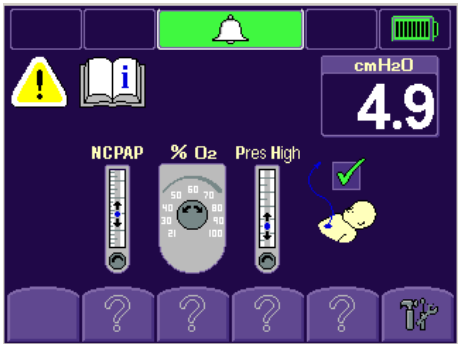


- A few seconds after turning on, the screen changes to Set Up Screen
- Before adjusting the pressure, calibrate the O_2 sensors

O_2 Sensor Calibration

1. Enter the Calibration Screen from the Set Up Screen by pressing the **CAL** button on the lower right hand corner of the touch screen
2. Adjust the $\%O_2$ control to 21%
    a. Allow the $\%O_2$ display to stabilize
    b. Confirm by touching the associated flashing question mark
    c. Wait for egg-timer to disappear and a green tick to be shown
3. Adjust the $\%O_2$ control to 100%
    a. Allow the $\%O_2$ display to stabilize
    b. Confirm by touching the associated flashing question mark
    c. Wait for egg-timer to disappear and a green tick to be shown
4. Return to the Start up Screen by pressing the **EXIT** button
5. **If calibration fails and returns an error code E5x**
    a. Calibrate again
    b. If fails again, inform technician and switch to other SiPAP machine
    c. If no other available, press **O_2 Disable** to disable O_2 monitoring and read O_2 level from the dial

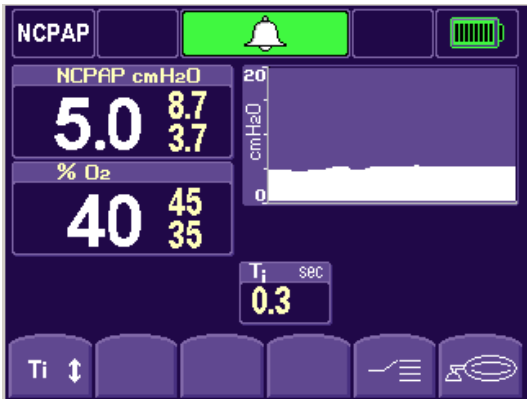
Leak Test



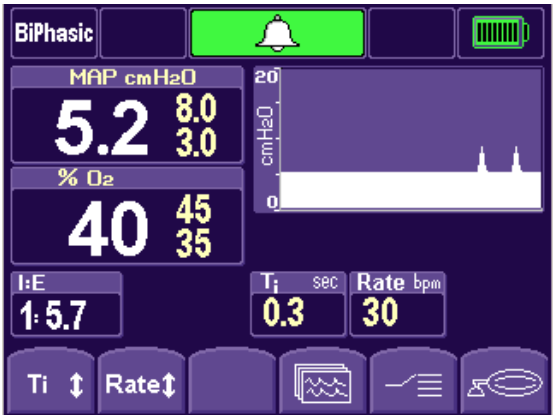
1. Connect the patient interface (prong or mask) to the generator and occlude the opening to the patient
2. Adjust the **NCPAP / Pres Low** flowmeter to 8 L/min
    a. Verify that the measured pressure is 5 ± 1 cmH_2O
    b. Adjust pressure to R_x lower CPAP level
    c. Touch the associated flashing question mark to confirm.
3. Adjust $\%O_2$ control as R_x for the current patient
    a. Verify that the blender setting, and the measured oxygen value, are within 3%
    b. Touch the associated flashing question mark to confirm.
4. Adjust the **Pres High** flowmeter as R_x for the current patient
    a. **Aim ≤ 3 cmH_2O above lower CPAP**
    b. Touch the associated flashing question mark to confirm.
5. Respiratory monitoring -
    a. **Yes? -** Connect the transducer to the front panel of the unit & associated respiratory sensor to baby
        i. The white arrow goes at the top – please do not force it
    b. **No?** - Ensure the transducer is disconnected from the front panel
    c. Touch the associated flashing question mark to confirm
    d. The display screen changes to the Alarm Set/Confirm Screen
6. Press the **NCPAP** button or **Alarm** icon to set alarms and begin monitoring
7. Remove the occlusion to the patient interface
    a. The monitored CPAP display should be 0-2 cmH_2O
    b. If not, check that the interface is not still occluded

Select therapy

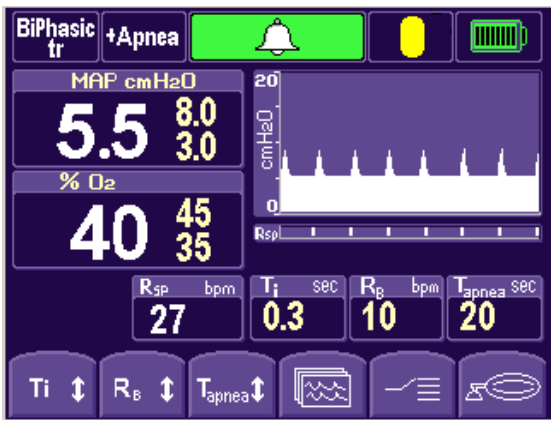
- **NCPAP –** continuous positive airway pressure based on clinician set pressure
    - Breath rate monitoring/alarm can be activated in this mode by selecting **NCPAP + Apnoea** mode



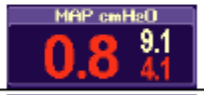
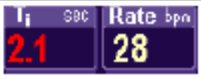
- **BiPhasic –** time triggered pressure assists are delivered based on clinician set inspiratory time, rate and pressure criteria
    - Breath rate monitoring/alarm can be activated in this mode by selecting **BiPhasic + Apnoea** mode



- **BiPhasic tr* –** patient triggered pressure assists delivered based on clinician set inspiratory time and pressure criteria
    - Breath rate monitoring/alarm and Apnoea backup breaths are automatically active in this mode.



Soft-key operation

Description	Example
A button which is enabled.	
A button which is inhibited due to non-availability of the designated feature or pending acknowledgement of an active alarm condition.	
A selected mode or control pending confirmation is visually highlighted and intermittently flashes between yellow and white text.	
While a button is pressed the edges are highlighted to provide a pressed appearance.	
When there is an active alarm associated with a measured value the measured value concerned is displayed with RED FLASHING text. The associated limit value (if any) is displayed in RED.	
When an alarm that is associated with a measured value is resolved, the device remains in a LOW priority alarm state, with the measured value displayed in YELLOW FLASHING text and the associated limit displayed in YELLOW, until the alarms are cleared by the operator.	
When parameter adjustments cause a reduction in another parameter to maintain requirements for minimum breath interval, the reduced parameter is displayed in RED for 15 seconds	

Changing a control

- When a control such as T_i (inspiratory time) is selected, increase and decrease buttons appear & the control and the displayed value for the selected parameter are highlighted
    - Use the up or down arrows to adjust the parameter
    - Accept the action by pressing the control button again
- If a button for another control is pressed at any time during this procedure, the first control reverts to its original setting and the highlight changes to the newly selected control
- If no button is pressed for a period of 15s during this procedure, the highlighted controls are automatically de-selected and the screen is restored to its previous configuration
- If no screen interactions occur for a period of 2 minutes and there are no active alarms, the screen goes to a ‘locked’ state to prevent inadvertent entries
    - To unlock the screen, press the screen lock button
    - In the case of a high priority alarm, the screen immediately unlocks to allow access to controls

<u>SiPAP, troubleshooting</u>

02 sensor calibration failure / error code E5x

- Calibrate again
- If fails again, inform technician and switch to other SiPAP machine
- If no other available, press **O_2 Disable** to disable O_2 monitoring and read O_2 level from the dial

Points to consider

- **Not achieving adequate pressure in set-up? –**
  - Check water bag spike is still in its holder
- **Start high –**
  - Aim to use respiratory sensor to synchronize breaths / provide alarms
  - If no decent signal, then switch to mode without a need for a sensor, i.e -
    - **BiPhasic tr* > BiPhasic**
    - **NCPAP + Apnoea > NCPAP**
- If not achieving desired PIP & no leaks present, consider an increase it T_i
- For early recognition of alarm state, consider reducing T_{apnoea} to 10s
- Battery life – Up to 2 hours
- **The unit is designed to give ≤ 3 cmH_20 pressure above CPAP level**
  - For this reason, the Pres High flowmeter only goes to 5Lmin^{-1}
  - **It should not be used "off the scale"**

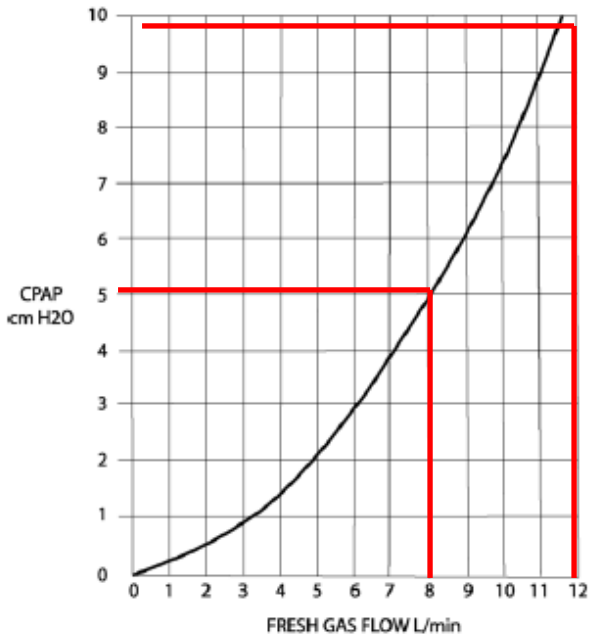


Figure 5 – Flow Pressure Nomogram