

Operation of Oxylog 3000 ventilator

Overview

- Suitable for patients from approximately 7Kg body weight upwards (smallest tidal volume 50mls).
- Entirely power dependant- will not ventilate if no available internal or external power source. Internal battery has approximately 4 hour life when fully charged.

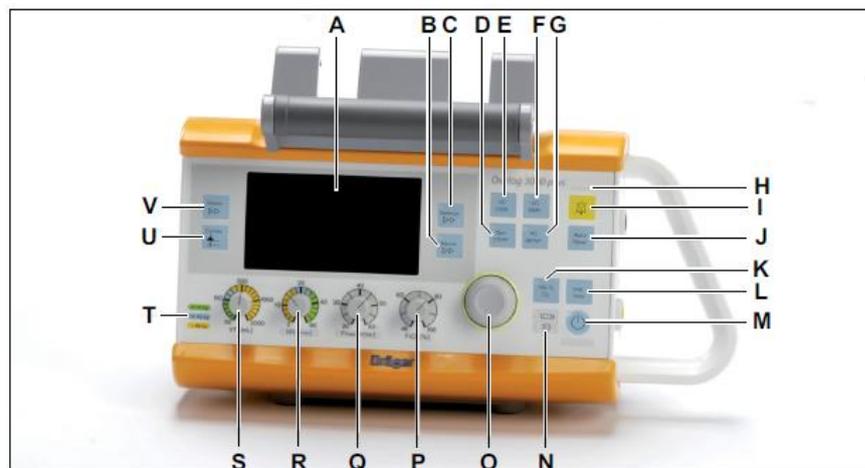


Figure 1 Oxylog 3000 control panel

- A Screen with screen pages for the specific application
- B Alarms Key
- C Settings Key
- D Key for ventilation mode **CPAP ASB**
- E Key for ventilation modes **IPPV**
- F Key for ventilation mode **SIMV ASB**
- G Key for ventilation mode **BIPAP ASB**
- H Red and yellow lamps as alarm indicators
- I Alarm silence Key (muting the alarm tone for 2 minutes)
- J Alarm Reset (acknowledging alarm messages)
- K 100% O₂ button (deliver 100% oxygen for 3 minutes).
- L Inspiratory Hold Key
- M Power Key (On/Off)
- N Display symbols for the power supply (Mains power/ Charge capacity of the internal battery)
- O Central rotary knob for making selections / settings and for confirming these
- P Control knob for setting the O₂ concentration to between 40 % or 100 %
- Q Control knob for setting the maximum inspiratory pressure
- R Control knob for setting the ventilation frequency
- S Control knob for setting the tidal volume
- T Explanation of colour codes for quick setting tidal volume/ventilation frequency
- U Curves Key (zooming the curve display and changing over between "Flow" and "Paw" curves)
- V Values Key (displaying measured values)

Setting up the Oxylog 3000

1. Connect the gas supply

The ventilator is gas-driven, so needs a pressurised supply of oxygen to make it work. Make sure oxygen supply is connected and turned on. If Oxygen not connected/turned off the ventilator will not cycle.

2. Connect disposable hose set

Connect the blue flow measuring hose to the blue socket and transparent flow measuring hose to the other socket. Ensure correct placement or measured volumes may be inaccurate.



Currently using Dräger disposable hose and so select “Paediatric Disposable Hose [DISP]” on hose selection screen- see below.

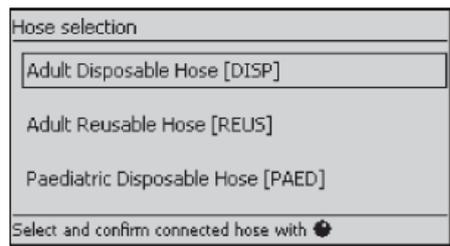
NB: Dead space volume (i.e. gas not contributing to ventilation) may be 30-40 mls using disposable hoses and may lead to re-breathing of CO₂ if using Oxylog with lower Tidal Volumes. End Tidal CO₂ monitoring should be used at all times.

3. Turning on the ventilator

Turn on the ventilator by briefly pressing the power key (**M**). The device will run through a short self-test and prompt a device check by displaying “**Press rotary knob for device check and configuration**”. If required press the rotary knob to confirm. Select “**Device check**” and follow the on screen instructions.



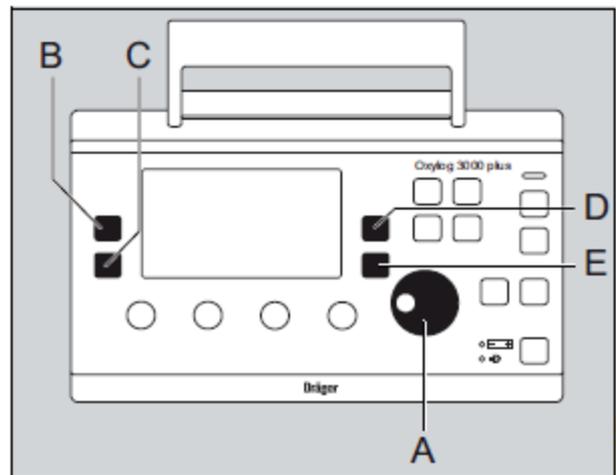
If the rotary button is not pressed during the self-test the Hose selection page is displayed.



Select Paediatric Disposable Hose by rotating the rotary knob (O) and confirm by pressing the rotary knob (O).

Using the Oxylog 3000

Display operating controls



- B** Key **Values** to change screen pages in the “Measured Values” window.
- C** Key **Curves** to change between the pressure or flow curves in small and large presentation.
- D** Key **Settings** to display ventilation parameters (ventilation screen) in the “Settings and Alarms” window.
- E** Key **Alarms** to display alarm settings in the “Settings and Alarms” window.

Ventilation Modes

Having completed the self-test the ventilator will default to the manufacturers default settings (IPPV (CMV)). To select a different ventilation mode either press the key for the ventilation mode for 3 seconds **or** briefly press key for ventilation mode and confirm by pressing the rotary knob.

Modes of ventilation available

1. IPPV or IPPV Assist- Intermittent Positive Pressure Ventilation is volume controlled mode with a fixed minute volume adjusted by changing Tidal Volume and Frequency Trigger value (under settings) can be adjusted to allow synchronisation with patient’s respiratory effort with a lower value resulting in higher sensitivity i.e. easier triggering. Trigger values below 3 L/min and over 15 l/min will deactivate triggering. Successful triggering is briefly indicated by an asterisk (*) appearing in the middle of the top line of the screen.
2. SIMV or SIMV/ASB- Synchronised Intermittent Mandatory Ventilation, with or without, Assisted Spontaneous Breathing is a fixed mandatory minute volume set with tidal volume and frequency. The patient can breathe between mandatory breaths and this can be assisted with ASB.
3. BIPAP or BIPAP/ASB- Biphasic Positive Airway Pressure, with or without, Assisted Spontaneous Ventilation is pressure controlled ventilation coupled with spontaneous breathing throughout and variable pressure support at CPAP level.

4. CPAP or CPAP/ASB- Continuous Positive Airway Pressure, with or without, Assisted Spontaneous Ventilation is a spontaneous breathing mode at an elevated pressure to maintain lung volume. Can also assist spontaneous breaths with ASB. NB if no spontaneous effort then will deliver SIMV breaths as per Apnoea ventilation settings on screen. Can adjust Apnoea time (range 15-60 seconds), tidal volume and frequency. To end Apnoea ventilation press the Alarm reset key.

| Mode | Controls below screen | Controls on screen |
|--------------------|--|--|
| IPPV or IPPVAssist | Tidal Volume Frequency (minimum 5/min) Maximum Airway Pressure Oxygen Concentration | I:E ratio PEEP Plateau Time Trigger sensitivity (IPPVAssist) |
| SIMV or SIMV/ASB | Tidal Volume Frequency (minimum 5/min) Maximum Airway Pressure Oxygen Concentration | Inspiration time PEEP Trigger sensitivity Pressure Support (ASB) Plateau Time Pressure Rise time/Ramp |
| BIPAP or BIPAP/ASB | Frequency (minimum 5/min) Maximum Airway Pressure Oxygen Concentration | Inspiration time Inspiratory Pressure PEEP Trigger sensitivity Pressure Rise time/Ramp Pressure Support (ASB) |
| CPAP or CPAP/ASB | Maximum Airway Pressure Oxygen Concentration | Trigger sensitivity Pressure Rise time/Ramp Pressure Support (ASB) |

Table 1 Control parameters by mode of ventilation

Alarms

Error messages are classified according to three priority levels as indicated by exclamation marks

!!! Warning =Message with top priority

!! Caution =Message with medium priority

!Advisory =Message with low priority

In the event of an alarm

- the indicator lights (shown as H on Figure 1) will either flash red/yellow or light yellow
- A message will appear on the upper right corner of the screen
- An audible alarm will sound

When the fault is remedied the audible alarm will be silenced but the message will remain on screen until either

- acknowledged by pressing the alarm reset key or
- replaced by a new alarm message.

Alarm tones can be suppressed for 2 minutes by pressing the alarm silence key.

After use

The Oxylog 3000 can be turned off by pressing and holding the power key for approximately 3 seconds. An audible high priority alarm will sound to check that ventilation has stopped. Either then press the rotary knob to confirm power off or press the power button to restart ventilating at the last settings.

Dispose of all hoses and filters and ensure that device is left plugged in to charge the internal batteries.