Avante Volumax VOS
Quick Reference Guide

Blocked tube

General fault

Water out

Alarm mute LED

Alarm mute button

Setting Control Knob

Battery low or charging (not indicative of charge level)

Disposable Water Path faulty or absent

Low Flow Vapor Transfer Cartridge

High Flow Vapor Transfer Cartridge

Vapor Transfer Cartridge fault (Low flow & High flow)

Gas supply fault

Run/Stop Status LED

Run/Standby button

This guide provides you with basic instructions on how to set up and operate the Volumax VOS. Before operating the Avante Volumax VOS please review the Operators Instruction Manual.

DISPOSABLE PATIENT CIRCUIT

- Attach High or Low Flow Vapor Transfer Cartridge to Disposable Water Path.

- Attach patient delivery tube to Disposable Water Path.

- Open door and install Disposable Water Path into docking station.

- Hang sterile water bag.

- Wipe water spike with alcohol pad and insert into sterile water bag.

- Allow a minimum of 200ml of water to fill into the Disposable Patient Circuit.

- Volumax VOS is ready for start up.

START UP AND ADJUSTING PARAMETERS

- Install oxygen sensor.

- Install gass inlet filters on back with filter bowls vertical (glass side down).

- Attach air & O_2 hoses. Plug in power cord.

- Rotate the blue Setting Control Knob to illuminate display.

- Press in Setting Control Knob to select the parameter and rotate to adjust the value.

- Press and release (do not hold) the Run/Standby button once to start. A GREEN light indicates RUN mode (AMBER light indicates STANDBY mode, No Flow).

- Green light will stop flashing once temperature is reached.

CONNECT TO PATIENT

- The flashing green LED becomes steady when the set variables are reached.

- Place the cannula on the delivery tube.

- After cannula is attached, it is ready to be placed on patient.

BATTERY BACK-UP MODE

- To activate the internal backup battery mode, the Run/Standby LED must be green before disconnecting the power cord.

- The unit will enter into battery mode and will maintain flow and oxygen percentage for at least 15 minutes
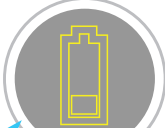
- The battery icon will flash.

SHUT DOWN MODE
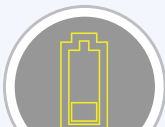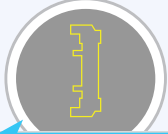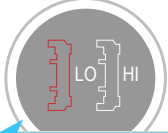
- Press the Run/Standby button. Unit will enter Standby mode.

- Clamp the water inlet tube and disconnect it by pulling out the spike.

- Open the door, remove the Disposable Patient Circuit (includes delivery tube & cartridge) by sliding it upwards out of the docking station

- Discard all disposables according to hospital guidelines.

- Disconnect unit from AC power.

CANNULA FLOW RATES

CARTRIDGE	CANNULA TYPE	OPERATIONAL FLOW RATES
High Flow (P04108)	VAPCA, VAPCPAS, VAPCPS*	5-40 liters per minute (lpm)
Low Flow (P04108LF)	VAPCPM, VAPCN, VAPCI, VAPCII, VAPCISP, VAPCPS*	1-8 liters per minute (lpm)

*VAPCPS is intended to deliver flow rates of 1-20 lpm

ALARM ICON	INDICATES	CAUSE	ACTION
GENERAL FAULT (FLASHING)	Malfunction of sensor or control system	Internal component failure	Cannot be corrected by user: disconnect patient. Shut off unit, send for service.
GENERAL FAULT (FLASHING) **% O₂** DISPLAYS DASHES (- -)	O_2 sensor fault	Depleted or defective O_2 sensor	Reset by shutting off unit. Replace O_2 sensor. Restart unit
BLOCKED TUBE (FLASHING)	High back pressure	Obstructed or kinked cannula/delivery tube, incorrect cannula for flow rate or DPC improperly seated	Clear obstruction, check cannula type, re-install DPC
WATER OUT (FLASHING)	No water in disposable water path. Gas flow continues without heating or water circulation	Sterile water empty, or obstructed inlet tube	Disconnect patient. Replace water bag or straighten inlet tube. Restart unit.
DISPOSABLE WATER PATH (FLASHING)	Disposable water path faulty or not detected. Unit will not run.	Disposable water path defective, not properly seated or not installed	If disposable water path is present, remove and replace to reset detector.
BATTERY CHARGING (FLASHING)	The internal battery backup is not fully charged. The unit would not run on battery for the full rated time in the event of a power failure. No action is necessary.		
BATTERY (FLASHING)	The unit is running BATTERY mode. Gas flow and blending continues without heat or water circulation.	AC power is disconnected	Reconnect AC power

ALARM ICON	INDICATES	CAUSE	ACTION
CARTRIDGE FAULT	Cartridge and/or DPC not detected. Unit will not run.	RUN mode: faulty sensor or cartridge not detected.	Disconnect patient. Remove disposable patient circuit. Check cartridge installation. Check sensor windows are clean
	Gas bubbles in water circulation. Unit continues to operate.	Excessive gas diffusion through cartridge fibers.	Disconnect patient. Shut off unit. Replace disposable patient circuit including water path, cartridge & delivery tube.
	Cartridge and/or DPC not detected.	STANDBY mode: missing cartridge.	Remove disposable patient circuit. Check cartridge installation.
CARTRIDGE TYPE	Indicates type of cartridge installed (low or high flow). Not an alarm.		
GAS SUPPLY (FLASHING)	Gas supply pressure outside 4-85 psi (28-586 kPa) range. Unit will not operate.	Gas supply is disconnected or exhausted.	Check gas supply and correct as necessary.
GAS SUPPLY (CONTINUOUS AND FLOW RATE NUMERIC DISPLAY FLASHES)	Selected flow can not be provided from current gas supply.	Inlet gas pressure too low for selected flow rate.	Increase gas pressure or decrease flow setting.
GENERAL FAULT TEMPERATURE DISPLAY SHOWS DASHES (- -) FLASHING	Temperature out of range	Overheating or temperature sensor malfunction.	Cannot be corrected by user: disconnect patient. Shut off unit and send for service.
TEMPERATURE NUMERIC DISPLAY FLASHES	Temperature 2° > set point	User enters set point much lower than previous temperature.	Silence alarm and wait for temperature to drop.
	Temperature 2° < set point	Very low water temperature after bag replacement.	Silence alarm and wait for temperature to rise.

GENERAL FAULT ALARMS: Failures in the control or measurement systems for temperature, gas flow, and oxygen percentage will cause a General Fault alarm indicated by this icon. Unit will continue gas delivery in a fault condition until placed in Standby. With the exception of O2 sensor replacement, the unit must be repaired by an approved service facility. General Fault alarms cannot be silenced with the mute button. To reset, first disconnect the unit from AC power and then press the Run/Standby Button.