



Apollo Quick Reference Guide

Start of Day

➤ **Turn machine on and prepare to perform pre-use check**

This will check the system's diagnostics, compliance, and leak (both manual and ventilator systems). Turn on the Apollo with the on/off switch on the front of the machine.

Read the FDA recommendations and follow instructions to prepare for self test.

-Occlude patient Y-piece on 'Draeger thumb' and ensure that sample line is connected.

-Set APL valve to 30 cmH₂O, press and hold flush bottom until system pressure stabilizes (don't go over 45 cm H₂O) and make sure pressure stabilizes above 15 cmH₂O.

Press 'Start Self Test' - this will take about 3 minutes.

Green Test completed successfully.

Yellow Workstation can be used with restrictions.

Red Operation of the workstations is impossible or not permitted.

➤ To start Apollo, simply turn on Fresh Gas and machine will come on in Man/Spont.

Manual Ventilation-(For more information about the ventilation- refer to Chapter 7 in the Operator's Manual)

➤ **Adjusting Flows** – While in "Standby", turn on O₂ flow meter counter-clockwise until desired setting is reached. This will activate the monitor and when the fresh gas is on, the Apollo goes automatically in the "Man/Spont" which allows you to manually ventilate the patient.

➤ **APL Valve** - Adjust the APL valve to the desired pressure by turning right to tighten or left to loosen.

Mechanical Ventilation

➤ **Volume Ventilation** – Depress the "Vol. Mode" soft key. The default parameters for volume ventilation appear. To change a setting, simply depress the soft key below the parameter, turn the rotary knob and confirm. Once the desired settings are present, confirm the rotary knob once more to activate the ventilator. (If you choose to do so, you may select the 'Weight' while still in Man/Spont and enter the patient's IBW in Kg. This will set the default parameters within the reasonable limits).

➤ **Pressure Control Ventilation** – Depress the "Press. Mode" soft key. The default parameters for pressure control ventilation appear. To change a setting, simply depress the soft key below the parameter, turn the rotary knob and confirm. Once the desired settings are present, confirm the rotary knob once more to activate the ventilator.

(A good indication for Pressure Control Ventilation (PC) - During surgery when Peak Inspirations Pressures (PIP) are higher than desired, changing over to PC will now limit the pressure to the value that is safe for ventilation. Now instead of monitoring the PIP as during Volume Ventilation, the VT and minute ventilation can now be monitored and adjusted to ensure adequate gas exchange at lower Peak Inspiratory Pressures).

Options in both Pressure and Volume Control Ventilation

-Synchronizing the patient's spontaneous breathing with the mandatory set rate by going to 'Extra Settings' and setting the '**Trigger**'. If the surgery 'falsely' triggering the breath instead of the patient, increase your amount of trigger required.

-If the patient is spontaneously breathing between the set mandatory rate, Pressure Support (**Pps**) can be added. The patients spontaneous VT between the set rate can be adjusted by increasing or decreasing the amount of PS. For larger VT increase the PS and for less VT decrease the amount of PS.

-When a patient triggers a spontaneous breath either with PS or the trigger turned on, a vertical line will be noted at the on the Pressure and Flow waveform at the start of inspiration to indicate the breath was triggered by the patient and was not the routine mandatory breath.

- **Pressure Support Ventilation (PS)** –Depress the “Press. Supp.” Soft key. The default key parameters for Pressure Support ventilation appear. To change a setting, simply depress the soft key below that parameter, turn the rotary knob and confirm. Once the desired settings are present, confirm the rotary knob once more to activate the ventilator. Indications for use of Pressure Support are a spontaneous breathing patient that needs their own VT augmented to ensure adequate ventilation. The amount of PS set will determine the VT delivery. By increasing the amount of PS set will increase the VT and decreasing the amount will decrease the VT

-The set respiratory rate on PS ventilation is a back-up rate for apnea ventilation. The set rate functions as time cycled ventilation. For example, if the rate is set at “4” the ventilator will need to see a spontaneous breath every 15 seconds. If a spontaneous breath does not occur, a mandatory breath will be delivered at the set PS and will continue at the set rate of 4 breaths every minute until the patient performs a spontaneous effort. When the patient resumes breathing, the mandatory breaths cease and allows the patient to initiate the spontaneous pressure supported respirations.

Most common alarms- (For a complete list of troubleshooting, refer to Chapter 12 of the Operator’s Manual)

“FG LOW OR LEAK” – more flow is needed or a leak has occurred in patient circuit.

“VT NOT ACHIEVED” – The set volume was not delivered. Check for leak, correct any pressure limiting of inspiration time or check the fresh gas supply setting.

“PINSP NOT ACHIEVED” Check the ventilation parameters, more fresh needed or possible leak.

“PRESSURE LIMITING” - This message occurs if the patients peak pressure reaches the P-MAX set in Volume Control. You either have to increase the P-MAX, decrease the set VT or try “Pressure Control.” Also check tube, hoses and filter for occlusion.

The three categories of alarms based on priority and identified by color.

Warning - message with high priority (red)

Cautions - message with medium priority (yellow)

Advisory - message with low priority (white)

End of Day

- **Turn machine off at the end of day** – Power switch on front of machine. Assure all flow meters are off.
- **Soda Lime** – The Apollo scrubs CO2 from the bottom-up. If the granules are depleted by $\frac{3}{4}$, replace.
- **Vaporizers** – Check site glass for fill level. Fill as needed.
***Please remember* When filling the Sevo and Iso Vaps, the lever does not need to be flush!**

This reference does not replace the Apollo Operator’s Instruction Manual.