



Using the new CPAP/PEEP and ASSIST functions of Tafonius

The standard Tafonius Auxiliary System as supplied on Tafonius systems without inclusive monitoring or on Junior machines, does not have support for CPAP or ASSIST functions. These functions can be added and if your machine has them fitted, this document describes their behaviour and use.

CPAP/PEEP Function

This function allows a defined base airway pressure to be imposed on the patient's airway circuit.

The difference between CPAP and PEEP is one based on the breathing mode of the patient. If the breathing mode is spontaneous then the term used is CPAP – Continuous Positive Airway Pressure. If the patient is receiving IPPV then the term is PEEP – Positive End Expiratory pressure. Both serve to maintain a minimum airway pressure.

To enter a CPAP or PEEP value, press the CPAP/PEEP button. The MWPL legend on the bottom right of the Auxiliary screen will change to either CPAP or PEEP depending on the mode of ventilation. Whilst the CPAP/PEEP button is kept pressed, turn the CPAP/PEEP knob to enter the required value. Push the button to commit the value. Release the CPAP/PEEP button. The CPAP/PEEP value will be shown on the Auxiliary screen next to the piston. Remember that the machine, when set with a CPAP/PEEP value will always act to maintain that pressure. This means that if the patient is disconnected from the Y-piece whilst CPAP/PEEP is active then the piston will move downwards in an attempt to re-establish the pressure. The result will be that the entire contents of the cylinder will be pumped into the room. To avoid this, always make sure that the CPAP/PEEP value is 0 before removing the patient from the Y-piece. This feature can be used to empty the cylinder contents through the Dump Valve at the end of an op:

Remove the patient and cap the Y piece. Then set a CPAP/PEEP value of 2. This will pressurise the cylinder to 2cm water pressure. Then press and hold the Dump Valve control until the system is empty. This will ensure that all the anaesthetic gas in the cylinder passes out through the scavenging system. Set the CPAP/PEEP value back to 0.



ASSIST Function

The ASSIST function is a mechanism that detects a patient's efforts to breathe and then gives an assisted breath if that effort meets or exceeds a minimum level. That minimum level can be set by the user.

To use the ASSIST function, press the ASSIST button once. In spontaneous mode the ASSIST button will flash slowly and the MWPL legend on the Auxiliary screen will be replaced with the text "SENS" followed by a value e.g. 60 LPM. This value of 60 litres per minute is the inspiratory flow rate value that the patient must meet or exceed in order to trigger the next IPPV stroke. This will not happen unless the ventilator is in IPPV mode. Pressing the RUN/IPPV button will cause the IPPV button to be lit and the ASSIST button will then remain lit continuously. Alternatively the ASSIST mode can be chosen when the patient is receiving IPPV. In this case the ASSIST mode will be lit continuously to show that the ASSIST mode is active.

In this state the ventilator is waiting for an effort from the patient. If this effort is not met then a maximum interval of 3 times the normal breath cycle will elapse before a mandatory breath is given. If the patient triggers a breath then the timing of the mandatory breath is reset. In either case, the delivered breath will be the values set on the ventilator, i.e. the same as in normal IPPV mode. Pressing the RUN/IPPV button will return the ventilator to spontaneous mode and cancel the ASSIST function. ASSIST mode may be used for weaning from the ventilator when the TV or MV may be less than normal. Alternatively the ASSIST mode may be used following induction to deliver a full or slightly larger breath to a patient making minimal respiratory excursions. This is a new feature and we currently have no guidelines on values to set. The software offers a range of between 1 LPM and 200 LPM as trigger values. We would welcome feedback on the settings found useful or normal in practice.

Dump Valve Function

The Dump Valve button enables the Dump Valve or patient circuit exit valve to be opened at any time. Pressing the button opens the Dump Valve and allows gas to pass out to the scavenging circuit. The Dump Valve remains open for 1 second after the button is released, so the minimum opening time by this method is 1 second. This feature may be used to evacuate the system after use, or to remove excess gas if the fresh gas flow rate is particularly high.