A time-cycled pressure limited (TCPL) breath is delivered when a breath time period elapses. If the patient does not trigger a breath before the breath time period elapses, the ventilator will deliver a mandatory TCPL breath according to the clinician-selected inspiratory flow, time cycle, and limits with integrated digital displays.

**Flow Cycled SIMV**

A flow cycled SIMV (SCSIMV) breath is delivered when the inspiratory flow falls to 10% of the peak inspiratory flow. The breath will be time cycled if the set inspiratory flow falls to 10% of the peak inspiratory flow. The ventilator will deliver a flow cycled SIMV breath when the inspiratory flow rate.

**Pressures and ventilator alarms**

**Variable ventilator controls with integrated digital displays to set breath characteristics.**

**Flow Sensor**

**Inspiratory Flow**

**Inspiratory Time**

**Inspiratory Pressure**

**PEEP/CPAP**

**Inspiratory Time**

**Expiratory Time**

**Inspiratory Flow**

**Inspiratory Pressure and are flow cycled when the inspiratory flow falls to 10% of the peak inspiratory flow rate.**
When PSV is selected all spontaneous breaths will be supported to the preset Inspiratory Pressure and flow cycling when the inspiratory flow falls to 15% of the peak inspiratory flow rate. These breaths may also be time cycled at the preset Inspiratory Time or volume cycle when the Volume Limit is reached, whichever occurs first. The Inspiratory Time Display will flash if the breath is terminated based on time rather than flow. If the Inspiratory Time display and Ventilator Rate display is flashing, the set Inspiratory Time will change in order to maintain breath delivery at the set Ventilator Rate. 

Volume Limit

Volume Limit is a feature that limits the maximum tidal volume of all breaths delivered by the ventilator. It can be enabled in all modes including CPAP and PSV providing an added measure of patient safety. The range is 5 to 300 ml. The Volume Limit LED will display dashes if the flow sensor is absent or disabled.

In this mode, all breaths will be limited to the set maximum tidal volume. A visual indicator will show when breaths have been limited. An audible Mode

In this mode, an audible tone will be delivered after 5 consecutive volume limited breaths. For each subsequent volume limited breath, an audible tone will be delivered. In this mode, the ventilator will wait for one apnea delay to occur first. The Inspiratory Time Display will flash if the breath is terminated based on time rather than flow. If the Inspiratory Time display and Ventilator Rate display is flashing, the set Inspiratory Time will change in order to maintain breath delivery at the set Ventilator Rate. 

Setup:

1. Select CPAP mode.
2. Set desired flow rate.
3. Set desired PEEP/CPAP level
4. Adjust the Over Pressure Relief Valve per instructions in User Manual
5. Set Inspiratory Pressure
6. Set High Pressure Limit Alarms
7. Set Low PEEP/CPAP Alarm
8. Set High Breath Rate Alarm

Ventilator controls must be set to appropriate settings for the patient. They are active when the manual breath button is pushed, or if the alarm threshold is reached.

The Ansol Sensitivity control determines the amount of inspiratory effort the patient must exert to trigger an Ansol Control, CPAP breaths or to have spontaneous breaths counted and displayed in the breath rate monitor. The Ansol Sensitivity feature has an adjustable range of 0.2 lpm to 5.0 lpm. To correctly set the Ansol Sensitivity and determine if a breath is present, the sound sensitivity level to the right and silent if a Leak Detection LED bar is present to the left of the Ansol Sensitivity LED.

When in CPAP only, the base flow of active, all breaths are spontaneous and uncounted. When in CPAP is being delivered through an artificial airway (flow sensor must be attached), the sensitivity must be appropriately set in order that spontaneous breaths are counted and displayed in the breath rate monitor. Set constant pressure in maintained throughout the breath cycle based on the set PEEP/CPAP level.

Controls, Modes and Waveforms

This training aid has been designed to assist the clinician in the understanding and use of the features and options available on the Bear Cub 750sv infant/ Pediatric ventilator. Numbers have been used for easy cross-reference between faceplate information, waveform graphics, and breath mode explanations.

CAUTION: Prior to using this training aid, read and understand the Bear Cub750sv Operator’s Manual L5522.