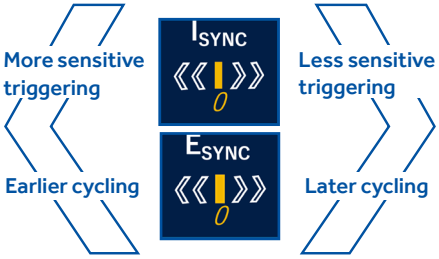
Medtronic

Puritan Bennett™ 980 ventilator

IE Sync™ software quick reference guide

The IE Sync™ software option for the Puritan Bennett™ 980 (PB980) ventilator provides a noninvasive method of breath triggering and cycling that may enhance patient - ventilator synchrony compared to conventional flow triggering and cycling for adult patients with airflow obstruction and weak inspiratory efforts.[1]

When the IE Sync trigger type is selected while in SPONT mode with the pressure support (PS) or volume support (VS) spontaneous breath type selected, I_{SYNC} is the setting for trigger sensitivity and E_{SYNC} is the setting for cycle sensitivity on the ventilator.

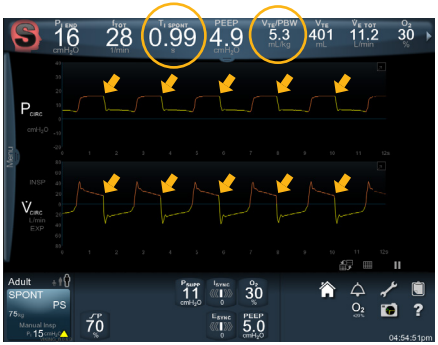


IE Sync™ setup and use

1. Select **Invasive Ventilation Type.**
2. Select **SPONT Mode.**
3. Select **PS** or **VS Spontaneous Type.**
4. Select **IE Sync Trigger Type**.
5. At start up, both **I_{SYNC}** and **E_{SYNC}** settings default to the mid-point "0".
6. Monitor data values for f_{TOT}, V_T, and $T_{I\,SPONT}$ and pressure and flow waveforms to ensure patient comfort and synchrony.

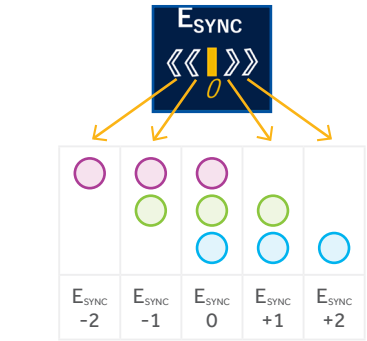
If needed, adjust **I_{SYNC}** and **E_{SYNC}** settings according to the instructions described later in this guide.

Note: If settings adjustment is needed, adjust **E_{SYNC}** first because the timing for breath cycling may impact triggering for the breath that follows.



E_{SYNC} cycling adjustment

1. **E_{SYNC}** settings are mapped to patient lung mechanics (obstructive, restrictive, and normal).



- Patients with obstructive lung conditions
- Patients with normal lung conditions
- Patients with restrictive lung conditions

2. Examine V_T and T_{ISPONT} data values and the flow and pressure waveforms to ensure that PS/VS breaths cycle to exhalation when the patient stops inhaling.
3. If breath cycling-off is delayed past the end of patient inhalation (V_T and T_{ISPONT} data values are elevated/waveforms show late cycling), adjust **E_{SYNC}** to a lower (earlier) setting.

Note: This may be more common on patients with airflow limitation/obstructive lung conditions.

4. If breath cycling-off occurs before the patient stops inhaling (V_T and T_{ISPONT} data values are reduced /waveforms show early cycling), adjust **E_{SYNC}** to a higher (later) setting.

Note: This may be more common on patients with restrictive lung conditions.

I_{SYNC} triggering adjustment

1. Compare the f_{TOT} data value with:
   - Number of observed patient efforts
   - Respiratory rate value shown on the patient bedside monitor and
   - Flow waveform to ensure every patient effort is matched with a triggered breath from the PB980 ventilator.
2. Optimize the **I_{SYNC}** setting to the lowest setting that allows for comfortable, reliable breath triggering without auto-triggering.

Note: Patients with cardiac oscillations or shivering may require a higher (less sensitive) **I_{SYNC}** setting.

1. Internal engineering performance studies.

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