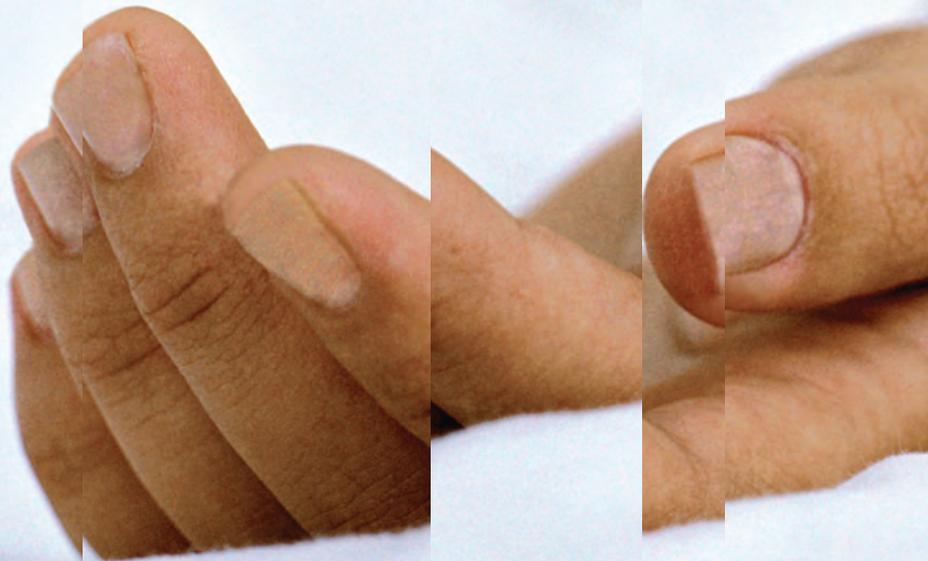
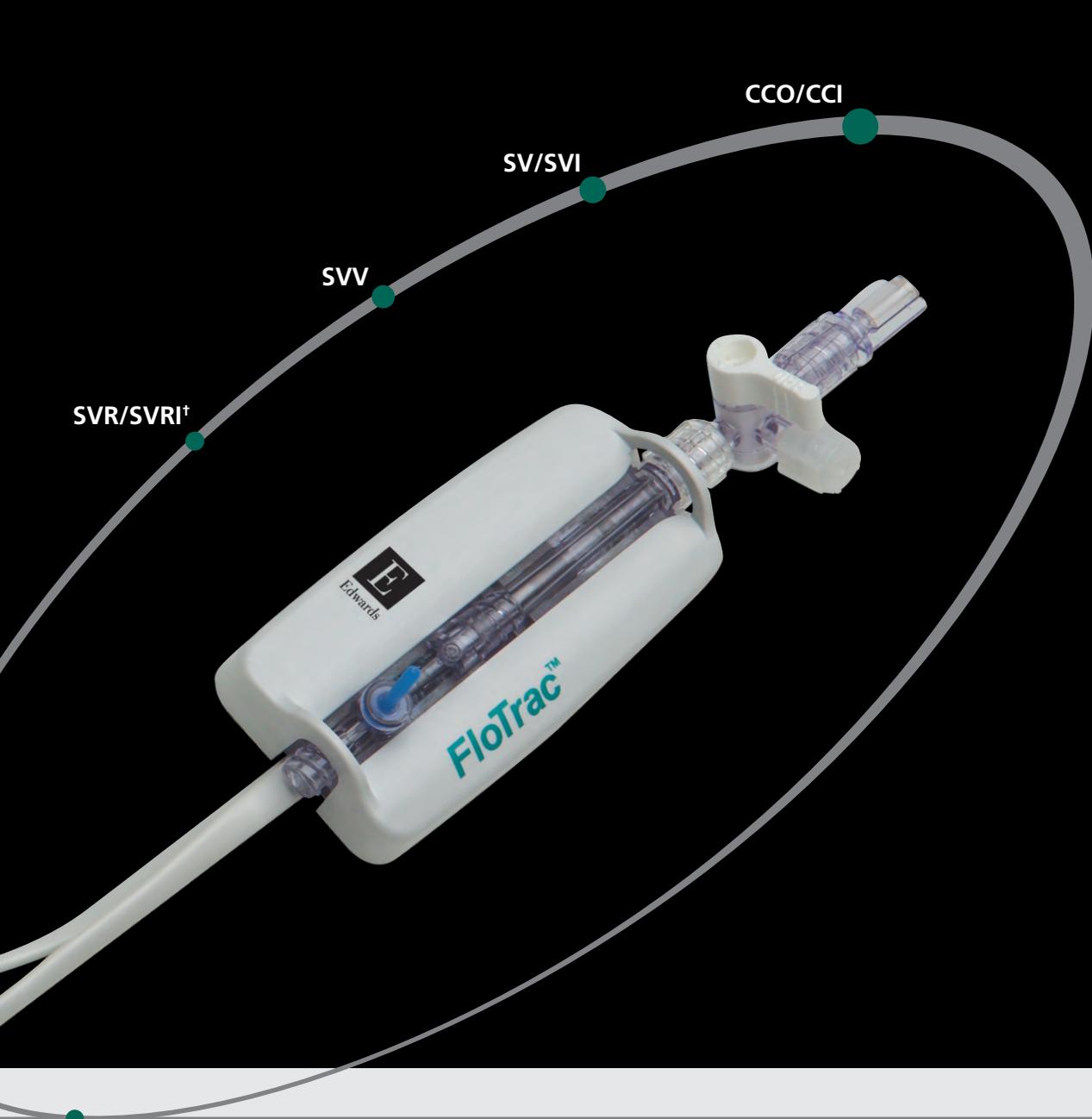


*FloTrac Sensor*

**When change  
is the only constant.**



Edwards



## The FloTrac System Algorithm

Formula for Cardiac Output = Heart Rate x Stroke Volume

FloTrac System Cardiac Output = Pulse Rate x [std(BP) \* ℳ]

### Pulse Rate [PR]

- Measured as beats per minute
- Beats identified by upslope of waveforms
- Advanced beat detection differentiates fully perfused beats
- Computed from 20-second time period of beats

### Standard deviation of arterial blood pressure [std(BP)]

- Pulse pressure ∝ SV ∝ std(BP)
- Measured as mm Hg
- Computed on a beat-by-beat basis

### The ℳ factor compensates for differences in vascular compliance and resistance

- Patient-to-patient differences estimated from biometric data
- Dynamic changes estimated by waveform analysis (skewness, kurtosis, of the waveform)
- Measured as mL per beat/mm Hg
- 1-minute average updates

# FloTrac system. A practical fluid management solution that adapts to your changing patient conditions.

A lot can change in a moment. And with the 3<sup>rd</sup> generation FloTrac system from Edwards Lifesciences, you'll have access to automatic, up-to-the-minute cardiac output, stroke volume, stroke volume variation and systemic vascular resistance – under more patient conditions. The FloTrac sensor easily connects to any existing arterial catheter, and requires no manual calibration, making it the easy and reliable solution for fluid management.

This latest enhancement evolves the algorithm using an expanded patient database. This database informs the algorithm to recognize and adjust for more patient conditions – including hyperdynamic conditions.

With the easy and reliable FloTrac sensor, you have continuous insight, under more conditions to choose the correct fluid optimization therapy and deliver it at the right time and in the right magnitude. Delivering clarity in every moment.

- **Less invasive, easily connects to any existing arterial catheter—enabling nurse-driven care**
- **Automatically calculates key flow parameters every 20 seconds**
- **Recognizes and adjusts for hyperdynamic and vasodilated patient conditions**
- **Broader patient monitoring through expanded patient algorithm database**
- **Enables you to make a differential diagnosis leading to either a volume or cardiovascular intervention (preload, afterload and contractility)**
- **Provides CO/CI, SV/SVI, SVV and SVR/SVRI<sup>†</sup>**

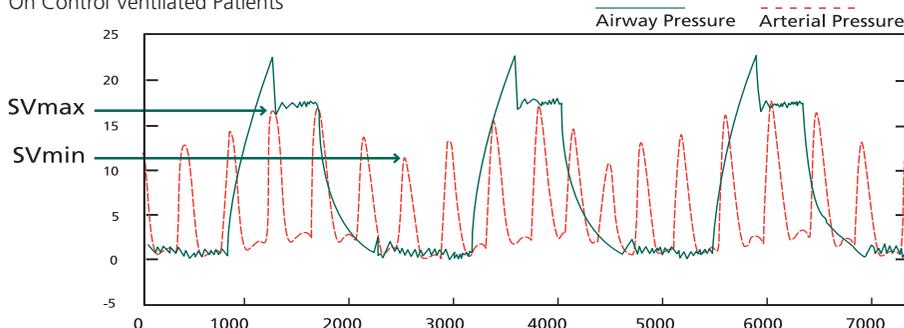
## Stroke Volume Variation

- A reliable indicator of preload responsiveness
- Stroke Volume Variation Calculation

$$\% \text{ SVV} = \frac{\text{SVmax} - \text{SVmin}}{\text{SVmean}}$$

## Stroke Volume Variation and Fluid Optimization

On Control Ventilated Patients



*Implementation of an intraoperative, goal-directed, hemodynamic optimization protocol using the FloTrac system was associated with a lower incidence of complications compared to a standard management protocol.<sup>1</sup>*

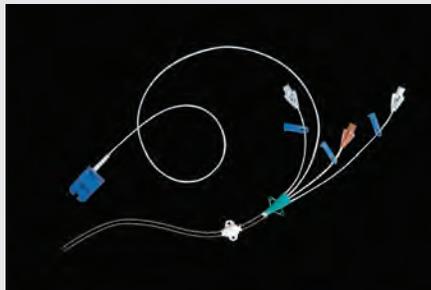
## The 3<sup>rd</sup> generation FloTrac system from Edwards Lifesciences

The FloTrac system is the latest evolution in continuous hemodynamic monitoring from Edwards, the creator of the gold-standard Swan-Ganz pulmonary artery catheter. The FloTrac system offers you the fluid optimization information you need, when you need it most. For clarity in every moment.



### Vigileo monitor

The FloTrac sensor may be used with the Vigileo monitor to continuously measure and display key flow parameters.



### PreSep oximetry catheter

The PreSep oximetry catheter continuously monitors central venous oxygen saturation (ScvO<sub>2</sub>) and is an integral part of the Early Goal-Directed Therapy (EGDT) protocol for the treatment of sepsis. When continuous ScvO<sub>2</sub> from the PreSep oximetry catheter is combined with cardiac output (CO) and stroke volume (SV) provided by the FloTrac sensor, you'll find a clear path to improving sepsis patient outcomes. Both may be used with the Vigileo monitor.



### TruWave DPT and VAMP system

The FloTrac sensor, when used with the TruWave disposable transducer and VAMP closed blood sampling system, provides an integrated hemodynamic monitoring system and is the solution trusted by more clinicians worldwide.

Helping to advance the care of the critically ill for 40 years, Edwards Lifesciences seeks to provide the valuable information you need, the moment you need it. Through continuing collaboration with you, ongoing education and our never-ending quest for advancement, our goal is to deliver clarity in every moment.

**Visit [www.Edwards.com/FloTrac](http://www.Edwards.com/FloTrac) to learn more**

**For professional use. CAUTION: Federal (United States) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.**

#### Reference:

1. Benes J, Chytra I, Altmann P, et al. Intraoperative fluid optimization using stroke volume variation in high risk surgical patients: results of prospective randomized study. *Critical Care*. 2010;14:1–15.

† Derived with CVP.

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