

GETINGE Hemodynamic Monitoring System



# GETINGE Hemodynamic Monitoring System User Guide

[Home](#) » [GETInGE](#) » GETINGE Hemodynamic Monitoring System User Guide 

## Contents

- [1 GETINGE Hemodynamic Monitoring System](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 Hemodynamic Normal Values](#)
- [5 Hemodynamic Decision Model](#)
- [6 Documents / Resources](#)
  - [6.1 References](#)



**GETINGE Hemodynamic Monitoring System**



## Product Information

### Specifications

- ScvO<sub>2</sub>\*: 70-80%
- VO<sub>2</sub>I: 125-175 ml/min/m<sup>2</sup>
- DO<sub>2</sub>I Hb\*\*: 400-650 ml/min/m<sup>2</sup>
- SaO<sub>2</sub> / SpO<sub>2</sub>: 96-100%
- CI: 3.0-5.0 l/min/m<sup>2</sup>
- HR/PR: 60-100 1/min
- SVI: 40-60 ml/m<sup>2</sup>
- GEDI: 680-800 ml/m<sup>2</sup>
- ITBI: 850-1000 ml/m<sup>2</sup>
- SVV\*\*\*: < 10 or > 10
- PPV\*\*\*: < 10 or > 10

## Product Usage Instructions

### Hemodynamic Parameters

- **Oxygen Delivery:** Amount of oxygen carried by the blood to organs.
- **Blood Flow:** Volume of blood flowing through the circulatory system per unit time.
- **Stroke Volume:** Volume of blood pumped out by the heart with each beat.

### Cardiac Parameters

- **Cardiac Index (CI):** Measure of cardiac output adjusted for body surface area.
- **Heart Rate:** Number of heartbeats per minute.
- **Stroke Volume Index (SVI):** Output per heart beat adjusted for body surface area.

## Fluid Responsiveness Parameters

- **Stroke Volume Variation (SVV):** Dynamic indicator of fluid responsiveness.
- **Pulse Pressure Variation (PPV):** Variation in pulse pressure indicating fluid responsiveness.

## Frequently Asked Questions (FAQ)

- **Q: What are the normal values for ScvO<sub>2</sub>\* and SaO<sub>2</sub> / SpO<sub>2</sub>?**

A: ScvO<sub>2</sub>\* should be in the range of 70-80%, and SaO<sub>2</sub> / SpO<sub>2</sub> should be between 96-100%.

- **Q: How is Stroke Volume calculated?**

A: Stroke Volume is calculated as the difference between end-diastolic volume and end-systolic volume in the heart.

- **Q: What does Cardiac Index (CI) represent?**

A: Cardiac Index is a measure of cardiac output adjusted for body surface area, providing a more standardized comparison across individuals.

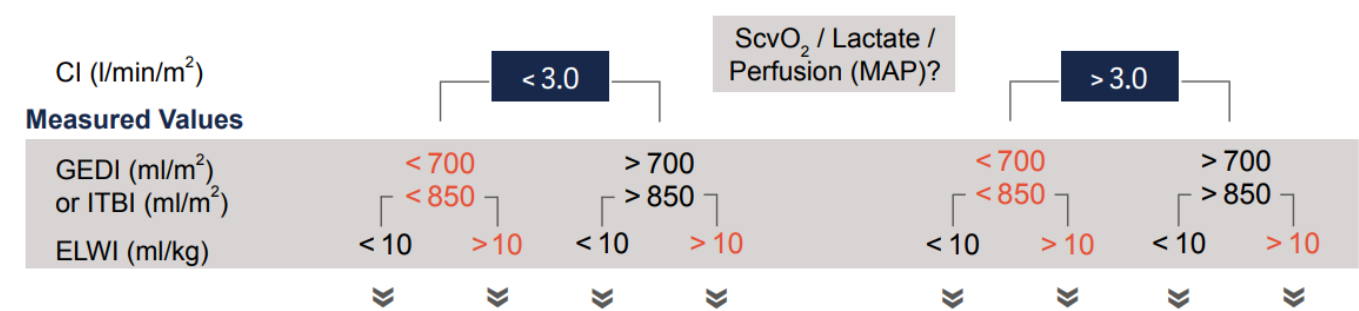
## Hemodynamic Normal Values

Oxygen Delivery	Central Venous Oxygenation - Oxygenation Balance (Oxygen load of the venous blood after passing through the organs)		ScvO <sub>2</sub> *	70-80 %
	O <sub>2</sub> Consumption (Consumption of O <sub>2</sub> by organs)		VO <sub>2</sub> I	125-175 ml/min/m <sup>2</sup>
	O <sub>2</sub> Delivery (Delivery of O <sub>2</sub> via blood to organs)		DO <sub>2</sub> I	400-650 ml/min/m <sup>2</sup>
	Hemoglobin (Oxygen transporter in blood)		Hb**	8.7-11.2 mmol/l (Male) 7.5-9.9 mmol/l (Female)
	Arterial / capillary oxygen saturation (Oxygen load of arterial blood)		SaO <sub>2</sub> /SpO <sub>2</sub>	96-100 %
	Flow	Cardiac Index (Trend, Cal, td, PC)	CI	3.0-5.0 l/min/m <sup>2</sup>
	Chronotropy	Heart Rate/Pulse Rate	HR/PR	60-100 1/min
	Stroke Volume	Stroke Volume Index (Output per heart beat)	SVI	40-60 ml/m <sup>2</sup>
		Global Enddiastolic Volume Index (Volume of blood in the heart)	GEDI	680-800 ml/m <sup>2</sup>
		Intrathoracic Blood Volume Index (Volume of blood in heart & lungs)	ITBI	850-1000 ml/m <sup>2</sup>
		Stroke Volume Variation (Dynamic fluid responsiveness)	SVV***	<10 %
		Pulse Pressure Variation (Dynamic fluid responsiveness)	PPV***	<10 %
		Systemic Vascular Resistance Index (Resistance of vascular system)	SVRI	1700-2400 dyn*s*cm <sup>-5</sup> *m <sup>2</sup>
		Mean Arterial Pressure	MAP	70-105 mmHg
		Contractility	GEF	25-35%
Lung	Extravascular Lung Water Index (Lung edema)		ELWI	3.0-7.0 ml/kg
	Pulmonary Vascular Permeability Index (Permeability of lung tissue)		PVPI	1.0-3.0

Absolute values (non-indexed values) are only usable in trend screens and have no normal range. \*A high-normal / high ScvO can be a sign of insufficient O utilization \*\*14-18 g/dl (Male); 12-16 g/dl (Female) \*\*\*SVV and PPV are only applicable in fully ventilated patients with a tidal volume ≥ 8 ml/kg PBW (predicted body weight) and without cardiac arrhythmias

## Hemodynamic Decision Model

**NOTE:** PULSION Medical Systems is a medical device manufacturer and does not practice medicine. PULSION does not recommend these values for use on a specific patient. This decision model is not obligatory.



- V+ = volume loading
- V – = volume withdrawal
- Cat = catecholamine / cardiovascular agents

Please reevaluate your clinical decisions and the set target parameters.

**Therapy Options**



**Targeted Values**

• GEDI (ml/m <sup>2</sup> ) (if ELWI >10 → 700-800)	> 700
• GEF (%)	> 25
• CFI (1/min)	> 5
• ELWI (ml/kg) (slow response)	≤ 10

- **Volume Responsiveness?**  
(Passive Leg Raising / Endexpiratory Occlusion Test / Volume Challenge / SVV / PPV?)
- **Contractility Problem?**  
(GEF / CFI / Echo?)

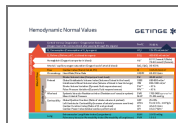
This information is intended for an international audience outside the US. This information is aimed exclusively at healthcare professionals or other professional audiences and are for informational purposes only, is not exhaustive and therefore should not be relied upon as a replacement of the Instructions for Use, service manual or medical ad-vice. Getinge shall bear no responsibility or liability for any action or omission of any party based upon this material, and reliance is solely at the user's risk. Any therapy, solution or product mentioned might not be available or allowed in your country. Information may not be copied or used, in whole or in part, without written permission by Getinge.

Pulsion Medical Systems SE · Hans-Riedl-Str. 17 · 85622 Feldkirchen · Germany · +49 89 45 99 14-0 · [zentrale.pulsion@getinge.com](mailto:zentrale.pulsion@getinge.com) · DMS- 0006646 · 03/2024

[www.getinge.com](http://www.getinge.com)

---

## Documents / Resources



[GETINGE Hemodynamic Monitoring System](#) [pdf] User Guide  
Hemodynamic Monitoring System, Monitoring System, System

## References

- [✱ Welcome to Getinge](#)
- [User Manual](#)

[Manuals+](#). [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.