Servo-u Ventilator

The power of you

This document is intended to provide information to an international audience outside of the US.

GETINGE

Personalized ventilation for better outcomes

Mechanical ventilation is used in life support for millions of people each year, in everything from scheduled procedures to acute organ failure. It's a vital technique, but it can also lead to injury. The best way to minimize this risk is to decide on the best protection and weaning strategy at the outset.

Servo-u gives you many options for personalized lung protection and weaning. All are easy to understand, implement and use, making it simple to integrate advanced personalized ventilation strategies into your daily patient care.

Welcome the new power of you.

Frame illuminates in case of alarm

Easy to capture screen shots and record actual events

Additional values

Color coding

Additional settings

Direct access to main settings

360° horizontal rotation

Context-based guidance

Servo-u provides informative guidance for everything from pre-use check to initial parameter setting and throughout the entire treatment.

Safety Scale parameters

The system's Safety Scale tool makes parameter changes quick and intuitive, while dynamic images illustrate how those changes may affect ventilation.

Simple to learn, safer to use

Servo ventilators build on 50 years of close collaboration with intensive care clinicians around the world. The result is innovation, higher levels of patient safety and a superior user experience.[1]

The intuitive touchscreen makes Servo-u a breeze to learn and use. Help menus, recommendations and prompts help staff to orientate quickly and follow guidelines. The interface also simplifies knowledge sharing, making it easy to retrieve screenshots and recordings or connect to a larger screen.

Servo-u features an ergonomic design. The screen can be rotated through 360°, which means you can place the ventilator anywhere around the bed depending on clinical requirements. You can also mount Servo-u on a ceiling supply unit or shelf. The system is light and compact, making it highly suitable for intra-hospital transport.

Choose your view

- Basic, Advanced and Loops
- Distance and Family
- Servo Compass and Pes & PL

Alarm management

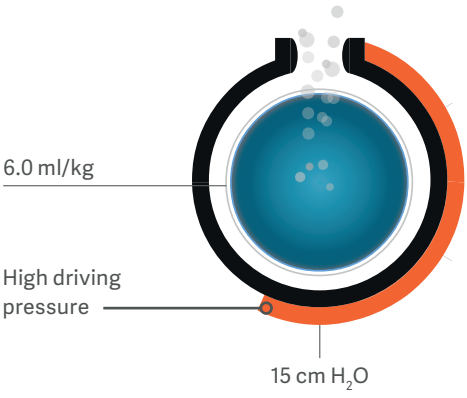
The frame lights up when an alarm is triggered, and this visual signal is easy to see from any view point. On-screen checklists help you to manage each active alarm and avoid undesired alarms.

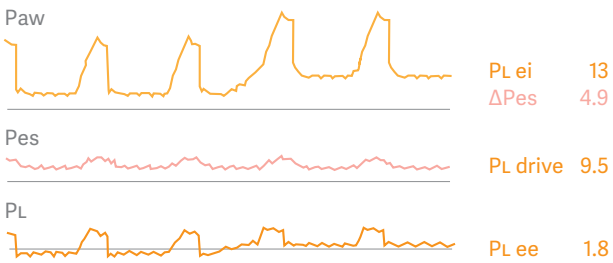
The right protection, for each patient at the right time

Recent clinical studies suggest that many ventilators lack effective bedside decision-support tools. It's a problem that results in protective ventilation strategies being delayed or inconsistently applied. Ultimately, this can harm the patient and worsen the outcome. [2,3,6]

Servo-u offers you the complete toolkit for personalized ventilation. It enables you to detect risks early and supports timely and consistent implementation of personalized protective ventilation strategies, in line with the latest international guidelines.[5,6]

» These new tools have the potential to make a significant difference in terms of patient outcomes. They are far ahead of what we are using today ![4]«



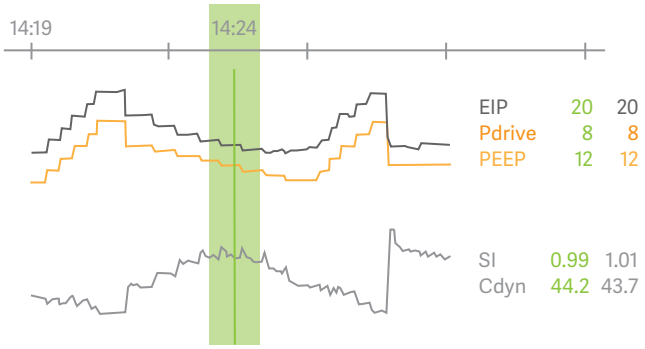


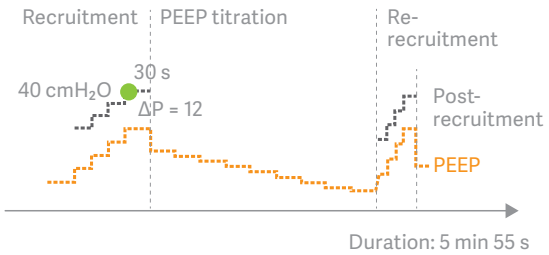
Servo Compass

Servo Compass makes it easy to see when plateau/driving pressure or tidal volume per predicted body weight (VT/PBW) are off pre-defined targets and interventions are needed.[4] Precisely calculated Dynamic compliance (Cdyn) and Stress index (SI) complete the picture, helping you detect changes in lung volume and verify over-distension.[2,7,8]

Transpulmonary pressure

To simplify esophageal manometry and improve accuracy, we have developed an automatic maneuver to validate balloon positioning and filling. A diagnostic view provides esophageal (Pes) and transpulmonary (P_L) pressure waveforms, with key parameters for safety assessment of controlled and spontaneous ventilation. The relationship between airway and transpulmonary pressures is now much more intuitive.





Open Lung Tool

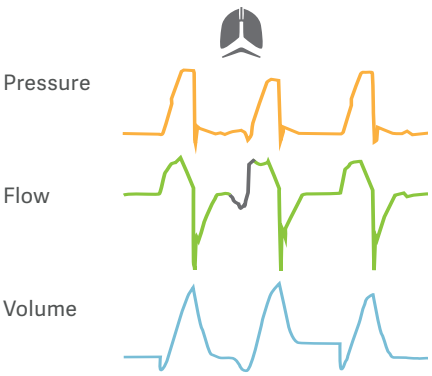
Open Lung Tool trends helps you assess lung mechanics and gas exchange – breath-by-breath, in real time and retrospectively. It provides flexibility and guidance when personalizing PEEP and driving pressure during recruitment maneuvers, prone positioning and extracorporeal life support. Stress index, carbon dioxide elimination and transpulmonary pressures are also fully integrated.

Automatic recruitment maneuvers

Auto SRM is an automatic workflow for Stepwise recruitment maneuvers based on the Open Lung approach.[9]
The tool guides you smoothly through recruitment, decremental PEEP titration, re-recruitment and post-recruitment personalization of PEEP and driving pressure, based on optimal Cdyn. Diagnostic features include assessment of recruitability and additional decision support when patients do not respond to the recruitment maneuver.[10]

Target protective tidal volumes

PRVC is a true volume-targeted mode that automatically adapts the inspiratory pressure to account for rapid changes in lung mechanics. Separated regulation of controlled and assisted breaths reduces tidal volume variations and ensures lower driving pressure. A low tidal volume strategy can therefore be maintained when a patients start breathing spontaneously.



Diagnose breathing and start weaning

Edi – the vital sign of respiration – is a bedside diagnostic tool that allows you to monitor and safeguard the patients diaphragm activity.[12,13]

Servo-u lets you visualize Edi on screen, making it easier to identify over-assist, over-sedation and asynchrony when optimizing ventilation delivery and assessing weaning readiness. The result: earlier and more informed interventions.[14,15]

Edi assures that breathing efforts from all patient categories are effectively assessed. It is also helpful for monitoring recovery when ventilatory support is no longer provided.

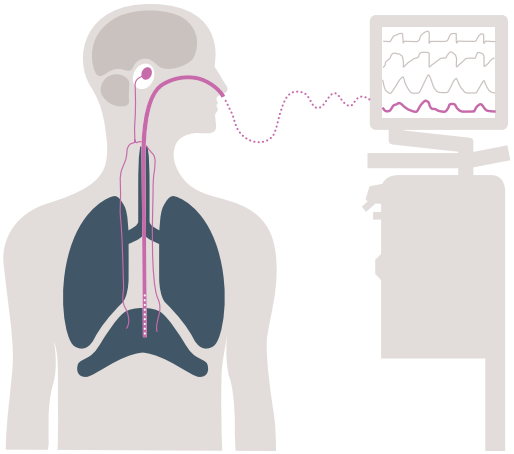
Wean early with an active diaphragm

Recent clinical studies reveal that diaphragm weakness is prevalent (23–84%) in ICU patients and consistently associated with poor outcome.[11] Servo-u lets you monitor the patient's diaphragm activity (Edi) to personalize ventilation for successful weaning.

Activate the diaphragm and protect the lungs

Servo-u offers several options to start weaning your patients:

The interactive Automode eases the transition to spontaneous breathing for patients and staff. It switches seamlessly between controlled and supported modes depending on patient effort.



NAVA (Neurally Adjusted Ventilatory Assist) uses the Edi to deliver personalized support, invasively and non-invasively. It promotes lung protective spontaneous breathing with higher diaphragmatic efficiency, and fewer periods of over and under-assist.[16–22] It also improves the patient's ICU experience, helping you to reduce sedation with improved comfort and sleep quality.[14, 23–26]

NIV NAVA is a non-invasive technique useful in helping avoid intubation and preventing respiratory failure from worsening.[27–29] It is also leakage independent, helping to reduce skin tear.[30,31]

High-flow therapy reduces the patient's work of breathing through an accurate flow of heated and humidified oxygen, improving comfort and tolerance.[32]

Optimizing uptime and efficiency

– Ownership with less stress

Servo-u is an investment both for now and for the future. The flexible, modular platform is always ready to adapt to your changing clinical needs, and our expert support is on hand every step of the way.

Protect your investment with Getinge Care

Maximizing uptime does not have to break your budget. By following a routine preventive maintenance schedule with remote and on-site services, Getinge Care keeps things running smoothly with minimal interruption. And if something should need urgent attention, our certified field service representatives will be there to deliver original parts, maximizing the lifespan of your equipment.

Expect seamless connectivity

Connectivity is essential to drive efficiency and positive outcomes in healthcare. Servo-u connects to a range of PDMS systems and patient monitors. it can also use MSync (optional) as HL7 converter, which makes the system conform to IHE Technical Frameworks.

Therapies and tools*

	High Flow therapy
	Open Lung Tool - OLT trends - Auto RM - Auto SRM
	Servo Compass
	Transpulmonary pressure

Ventilation modes

Invasive ventilation	Automode
	Bi-Vent/APRV
	NAVA
	PC
	PRVC
	PS/CPAP
	SIMV
	VC
	VS
Non-invasive ventilation	Nasal CPAP
	NIV NAVA
	NIV PC
	NIV PS

Invasive ventilation

Inspiratory tidal volume Adult Pediatric Neonatal	 100 – 4000 ml 10 – 350 ml 2 – 50 ml
Inspiratory flow	≤200 l/min
PEEP	1 – 50 cmH_2O
Pressure above PEEP Adult Pediatric/Neonatal	 0 – (120-PEEP) cm H_2O 0 – (80-PEEP) cm H_2O

Non-invasive ventilation

PEEP	2 – 20 cmH_2O
Pressure above PEEP	0 – (60-PEEP) cmH_2O
Leakage compensation Adult Pediatric/Neonatal	 Inspiratory up to 200 l/min Expiratory up to 65 l/min Inspiratory up to 33 l/min Expiratory up to 25 l/min Nasal CPAP up to 20 l/min

Miscellaneous information

Screen	15" TFT LCD touchscreen
Dimensions patient unit	W 300 x D 205 x H 420 mm H incl. user interface 826 mm
Weight	~ 23 kg (patient unit 15 kg, user interface 4 kg) ~ 35 kg with mobile cart
Batteries, hot swappable	6 (2 included)
Battery back-up time	at least 3 h (with 6 batteries)
Nebulization	Aerogen, integrated
Respiratory vital sign	Edi plug-in module
Esophageal pressure	Paux plug-in module
Y sensor monitoring	Hot-Wire Anemometer plug-in module
CO_2 analyzer	Capnostat 5 plug-in module
External device interfaces	2 x RS-232C ports, VGA, USB, remote alarm, remote services
IHE technical framework	MSync HL7 converter

*Not all modes/options are available in the standard configuration.
Please contact your local Getinge representative for further information.
Refer to the Servo-u datasheet for additional technical specifications.

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This document is intended to provide information to an international audience outside of the US.

Manufacturer: Maquet Critical Care AB · 171 54 Solna, Sweden · Phone: +46 (0)10-335 00 00 · info@getinge.com

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