GE HealthCare

# Carestation™ 750

## Anaesthesia Delivery System

**Individualized therapy at your fingertips**

# Individualized therapy at your fingertips

**In today's complex perioperative settings, patients are now having procedures at older and younger ages, and their conditions are more diverse and challenging than ever.**

GE HealthCare empowers you with cutting-edge technology to deliver better care with ease, efficiency and precision.

The Carestation 750 Anaesthesia Delivery System is a modern, sophisticated and easy-to-navigate anaesthesia workstation. It's built on our clinically proven platform to give you the control and accuracy you need for high-quality, attentive care.


Carestation 750 anaesthesia machine shown with GE HealthCare B155M Patient Monitor.
NOTE: An F2 module frame may be required for the B1x5M monitors when additional parameters are needed.

A Advanced clinical tools that help you deliver individualized therapy.

B An intuitive user interface and intelligent features for visual guidance during a case.

C Efficient, ergonomic design for seamless workflow and ease of service.

D Cloud-based applications analyze data and provide insights to help meet your goals.

**These comprehensive capabilities help you deliver precise and reliable anaesthesia care to patients regardless of age, size, background and acuity.**

# Embrace simplicity in personalized care

**No two cases and no two patients are the same.**

GE HealthCare is committed to providing accurate clinical monitoring of all parameters, so clinicians can deliver the optimum, tailor-made general anaesthesia to each patient.

## The Carestation 750 system features

### Customizable case profiles

You can create case profiles according to patient characteristics (such as pediatric, adult, obese), type of procedure, or physician preference. Each profile—available with one touch—includes preset alarm limits, apnea time, ventilation parameters, gas mix, and other essential parameters.*

* Clinicians review and adjust parameters of each case profile prior to starting each case.


| Your challenge | Our solution |
| --- | --- |
| Spending an extra **15–30%** on anaesthetic agents due to high fresh gas flow rates[1]<br><br>Contributing extra greenhouse gases equivalent up to **350** cars/year[2,3] | **Low-flow software**<br>ecoFLOW software helps support clinicians in the practice of low-flow anaesthesia by predicting how much $O_2$ is needed within the fresh gas flow for each patient to minimize the risk of delivering a hypoxic mixture to the patient—even at very low flows. ecoFLOW has the potential to deliver a positive impact on the environment and reduce agent costs when agent waste gases are reduced. |
| Improper ventilation during anaesthesia can cost over **$25K** /case in post-op lung complication[4] | **Lung protective ventilation software**<br>Programmable, step-by-step lung recruitment maneuver software on the main ventilation display that includes real-time compliance measurement to assess the procedure effectiveness. An exit PEEP feature lets you keep the lung open after the procedure is complete. |
| **40%** of patients arrive at the PACU with residual block each year[5] | **Integrated monitoring for tailored anaesthesia**<br>The Adequacy of Anaesthesia[9] concept (AoA) in the GE HealthCare integrated CARESCAPE™ Monitor utilizes parameters to assess patient responses to anaesthetics and neuromuscular blocking agents during surgery. This may help clinicians reduce drug utilization and optimize patient throughput. |

# Tools at your fingertips with an intuitive interface

The user interface for the Carestation 750 system helps you deliver quality care with natural ease. It allows you to breeze through cases, so you can worry less about the machine and devote more attention to your patients.

## 1 DIRECT ACCESS TO MAIN PROCEDURES

There's no more clicking through menus and submenus to access functions you use most often. Lung Recruitment, Timer, Pause Gas Flow, Auto Alarm, Turn Manual Alarm Off and other settings appear on the main ventilation display—right at your fingertips.

## 4 CONSISTENT USER INTERFACE

A standard user interface on the Carestation anaesthesia machine and the GE HealthCare patient monitor helps reduce training time, so you can easily follow your patients from transport to bedside.


## 2 CLEAR STATUS INDICATION

You get clear indication of system status on the display when using Auxiliary Common Gas Outlet (ACGO), Aux $O_2$ or standby mode, or when you switch from bag to mechanical ventilation.

## 3 INTELLIGENT LIGHTING

Whenever auxiliary ports are in use, lighting indicates the active flow controls. Visual reinforcement on the ventilation screen highlights flow status.

# Complete cases with speed, efficiency and comfort

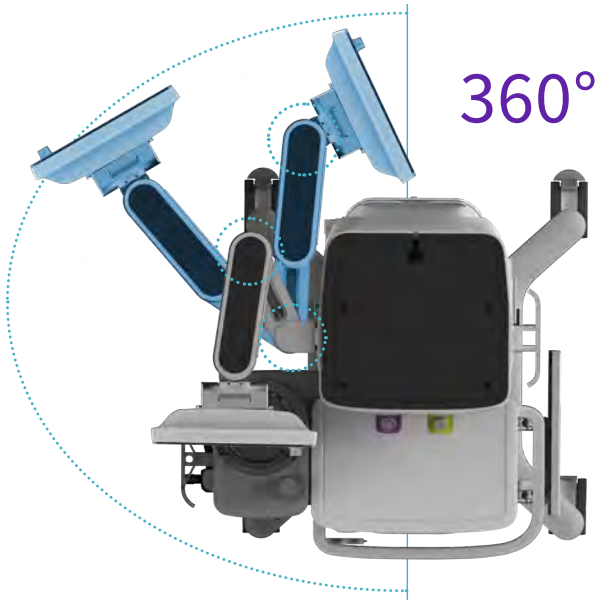
**Your challenge**

**35%**
of patient injuries from anaesthesia gas delivery are preventable by proper pre-use machine check[6]

**Based on extensive usability studies, we designed the Carestation 750 workstation to be compact with features that provide convenience and comfort to help alleviate workday stress.**

### Ergonomic convenience

An optional, full-function premium arm supports the display. With extend, tilt, raise/lower, and 360-degree swivel, you have maximum flexibility to stay close to the patient and have all controls within easy reach. The display can be positioned for optimal viewing even if you need to step or move into an alternative position without compromising your view.




**Our solution**

### Fast, complete and self-guided checkout

The daily checkout process is as simple as it is thorough. Clear, step-by-step, guidance on the screen lets you run a complete checkout, including a vaporizer test completed in 3.5* minutes.

**3.5 minutes**

* Based on a single vaporizer configuration. Actual times may vary.

### Streamline your care pathway

The intelligently designed CARESCAPE™ ONE monitor is an independent, intra-hospital transport monitor and a multi-parameter acquisition module that is compatible with the CARESCAPE monitoring portfolio across different care areas. In a simulated user study using CARESCAPE ONE, the monitor reduced total transport time by 26% and transport user errors by 60% compared to an analogous solution.


**26%**
reduction in transport time (based on simulated usability study)[8]

**60%**
reduction in user errors[8]

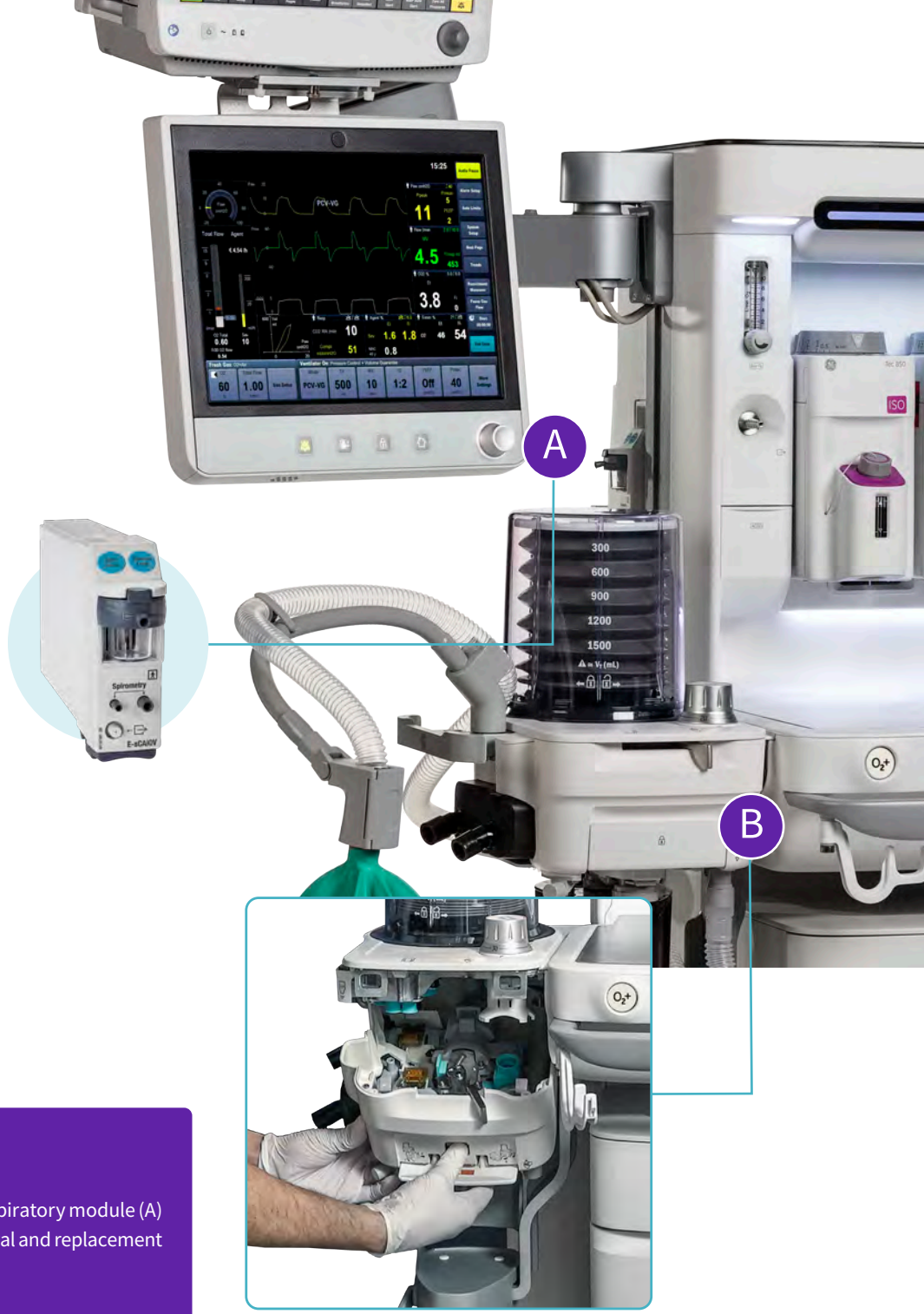
### Simplified cable management

A specially designed rear door covers all cables and hoses, yet still allows easy access to gas cylinders, gas connectors and circuit breakers. Cables and hoses are shielded from dust, and the smooth exterior simplifies surface cleaning.

A hose hook makes it easy to maneuver the unit inside and outside the OR. The machine top provides ample workspace with lighting for dark environments.


Carestation 750 anaesthesia machine shown with CARESCAPE Canvas™ Monitor

# Rapid response on a proven ventilation platform for efficient, individualized care




**We can help you deliver personalized care to ventilate patients from the simplest to the most complex cases with controlled delivery that optimizes patient gas exchange. Our Carestation 750 electronic flow valve technology and software allows:**

- **Fast response times:** reacts in 30 ms to changing patient needs
- **Precise tidal volumes:** delivers as low as 5 ml in pressure controlled ventilation (PCV) mode[10]
- **Quickly sets pressures and volumes:** monitors and responds 250 times/sec[11]

Thanks to its small volume and linear design, the Compact Breathing System provides a fast response to changes in fresh gas flow composition even at low and minimal flow rates.

## Let's help your OR schedule stay on time

**Your challenge**

OR delays may cost a hospital over

$60

per minute[7]

**Our solution**

### Modular design

Self-contained subsystems such as the integrated respiratory module (A) and breathing system (B), are designed for rapid removal and replacement without tools to minimize OR late starts or downtime.

# Software tools allow you to manage diverse patient acuities with ease and precision.

Together we can help you minimize patient post-operative pulmonary complications and length of stay with embedded and programmable anaesthesia software.


### Multi-step procedure

Configure lung recruitment maneuvers with programmable steps, and view compliance measurements at each step to assess the effectiveness of automated lung procedures.


### Single-step procedure

Software automates the manual bag “squeeze and hold” where PEEP can be programmed at the end of the procedure to help sustain an open lung.


### Pause Gas Flow

Press one button to temporarily stop all gas flows, agent delivery and ventilation as well as suspend alarms, so you can respond to critical patient needs.


### ecoFLOW software

Practice of lowflow anaesthesia by predicting how much $O_2$ is needed within the fresh gas flow for each patient to minimize the risk of delivering a hypoxic mixture.

D Analyze and apply

# Transform complex data into actionable insights

Once the Carestation 750 anaesthesia machine and CARESCAPE patient monitor are connected to the hospital network, use Carestation Insights applications to help you identify opportunities that can help:

- Improve perioperative productivity
- Reduce operating costs and optimize revenue
- Standardize best practices across anaesthesia providers

This intelligent OR ecosystem automatically captures and analyzes high-fidelity case data. Our applications use advanced algorithms to help you uncover actionable insights that are displayed on your personal devices: desktop, laptop, tablet or smart phone. Use these insights to help improve patient care and support your operational and financial goals.

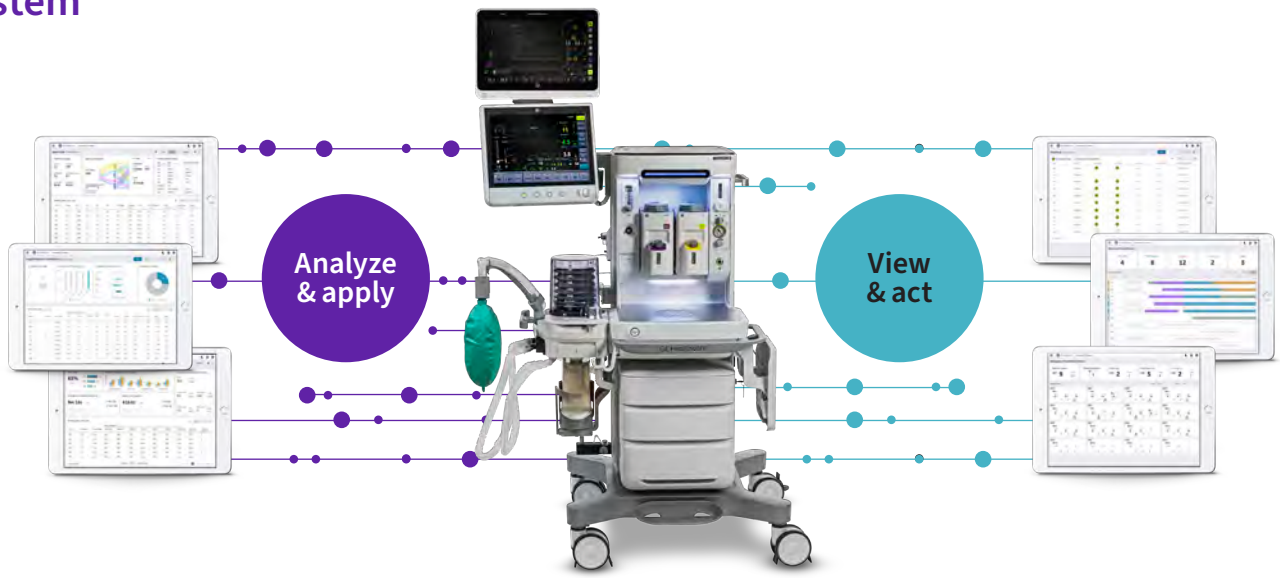
## OR digital ecosystem

**Retrospective Analysis**

Departmental view of protocols. Visibility into results and trends.

**Carestation Insights Applications**

- Agent Cost
- Lung Protective Ventilation
- OR Workflow
- Adequacy of Anaesthesia (AoA)




Carestation 750 anaesthesia machine with CARESCAPE or B1x5M patient monitors

**Real-time View**

Support protocol adherence in real time. Remote supervision.

**Carestation Insights Applications**

- Checkout
- OR Workflow
- Adequacy of Anaesthesia (AoA)

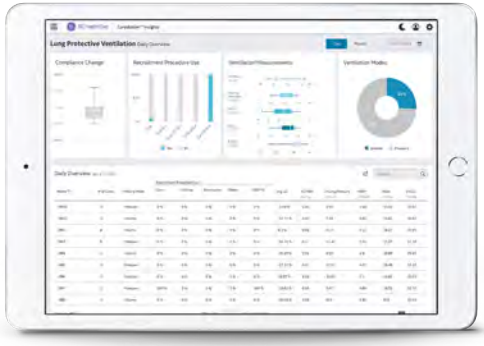
# We analyze. You drive change.

## Carestation Insights applications for decision support anytime, anywhere

Use these mobile applications to gain insights into anaesthetic agent spend and emissions, LPV and AoA protocol adherence, your OR workflow and Carestation 750 anaesthesia machine readiness.

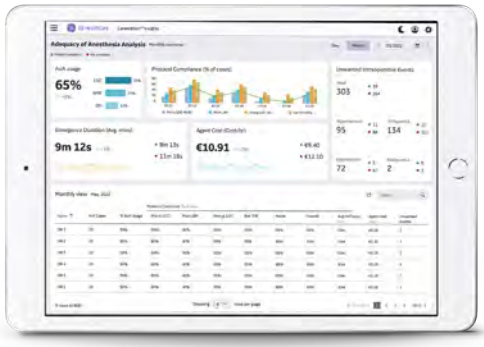
### Agent Cost application

Provides an analysis of anaesthetic agent use and costs across your department. Helps support low-flow initiatives that may help reduce agent costs and agent emissions into the environment.



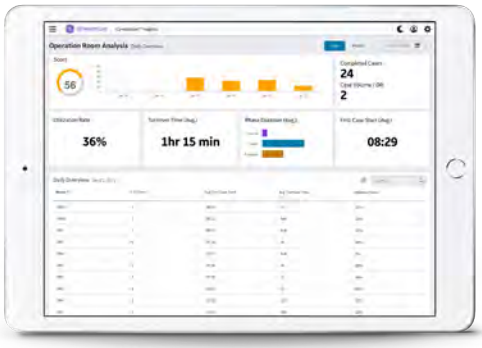
### Lung Protective Ventilation application

View ventilation settings and patient lung response from the Carestation 750 machine. Use the data to support lung protection initiatives to help drive improved clinical outcomes and help reduce PPCs.




### Adequacy of Anaesthesia (AoA) application

View real time* and historical AoA data measured against customized performance targets. See the impact of AoA practices on emergence times and track anaesthetic agent costs.




### OR Workflow application

View case phase and OR status in real time without the need for manual data entry. An OR efficiency score card is also calculated based on your goals to help track improvements over time.

### Checkout application

Keep track of Carestation 750 anaesthesia machines that have completed the checkout procedure to help improve scheduling workflows and protect patients against injury.

*Actual time may vary slightly due to hospital network and processing times.
NOTE: Images are representative of the product, but may change in future product software updates.

# GE HealthCare patient monitors – a perfect OR pairing

## Bring familiarity and precison when monitoring patient status and responses to Carestation 750 anaesthesia delivery.

Rely on our family of GE HealthCare patient monitors to help you make decisions for each patient type with scalable solutions that use our innovative FlexAcuity™ software and measurement technologies. We can help you optimize care across different patient populations with robust parameters that deliver the accuracy you need to make proactive clinical decisions from the OR to the bedside.


GE HealthCare B1x5M Monitors


CARESCAPE Canvas™ 1000 Monitor


CARESCAPE™ ONE Intra-Hospital Transport Monitor


CARESCAPE B450 Monitor


CARESCAPE B650 Monitor


CARESCAPE B850 Monitor

# Supporting your sustainability goals.

**Let's combine cost savings with sustainability to benefit patients and the environment.**

## Low flow. High impact.

### ecoFLOW software

Clinicians skilled in the practice of low- and minimal-flow anaesthesia delivery understand that sometimes less is more. That's why we developed ecoFLOW, an efficient anaesthesia delivery technology that provides visual guidance to help you maintain the desired inspired oxygen concentration and identify unnecessarily high fresh gas flow rates.

Anaesthetic agents are not only costly, but scientific evidence suggests that excess inhaled agents released into the atmosphere have the potential to affect the environment.[12] The Carestation 750 machine with ecoFLOW software may have a positive impact on the environment when agent waste gases are reduced.

### Patient

Helps your patient care by continuously monitoring the precise flow rates required to maintain target inspired oxygen concentrations.

### Economical

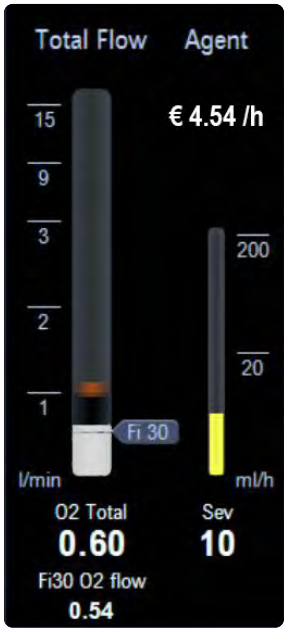
Anaesthetic agents are the biggest ongoing expense associated with anaesthesia units. The ecoFLOW option offers cost savings through more efficient utilization of inhaled anaesthetics.[13]

### Ecological

By choosing a low-flow practice, the environmental impact of anaesthetic vapors and gases can be minimized to help reduce the impact of these greenhouse gases.

### ecoFLOW technology

A new way to look at flow tubes to help you ensure your inspired oxygen target settings are achieved. The illustration shows flows above the Fi30 target as potential waste gas or excess to the patient's consumption. Whenever fresh gas flow exceeds the patient's requirement, gases enter the scavenging system and, ultimately, contaminate the atmosphere.




### ecoFLOW savings

ecoFLOW shows you a target and displays the cost of the liquid agent that corresponds with your set flow.

Use the information to adjust oxygen flow to help avoid hypoxic delivery or unnecessarily high fresh gas flow rates.

**30.5%**

reduction in agent costs was observed in one study[14] when ecoFLOW was used by clinicians.

# Tailored service to fit your needs and budget

**The Carestation 750 machine is designed for ease of service to help minimize downtime and total cost of ownership.**

We've simplified planned maintenance and made more than two dozen serviceability improvements, all to reduce service costs significantly. Parts are available quickly and conveniently through our subscription-based online Service Shop.

GE HealthCare experts stand ready to support you with flexible service offerings, from support for your in-house biomedical team to comprehensive service agreements delivered by GE HealthCare engineers. We'll help you choose a plan that complements your staff's expertise with our engineers, so you can schedule, reliable care throughout the life of your machine.

## Consumables and accessories

Every moment in the OR is critical for the patient and clinician. Quality and uptime cannot be compromised, and that is why GE HealthCare offers you a reliable, one-stop solution for compatible supplies and accessories. With an expansive portfolio verified by our engineers, you can rest easy knowing you are using high-quality components that optimize machine performance. This includes a simple, single point of contact for all questions, accessories and service needs with your GE HealthCare equipment.

## References


1. Hospitals can be spending an extra 15–30% for anaesthetic agents in an OR due to high flow estimates derived from the GE HealthCare ecoFLOW Calculator. Refer to DOC1455733.
2. Global Warming Potential of Inhaled Anaesthetics: Application to Clinical Use, Susan M. Ryan, MD, PhD, and Claus J. Nielsen, CSc International Society for Anaesthetic Pharmacology www.anaesthesia-anelgesia.org July 2010; v111 #1.
3. Environmental Protection Agency. Emissions facts: greenhouse gas emissions from a typical passenger vehicle. Available at: http://www.epa.gov/oms/climate/420f05004.htm#key.
4. Improper ventilation during Anaesthesia can cost over $25K/case (3) in post-op lung complications. Fleisher, L. A., & Linde-Zwirble, W. T. (2014). Incidence, outcome, and attributable resource use associated with pulmonary and cardiac complications after major small and large bowel procedures. Perioperative Medicine, 3(7). doi:10.1186/2047-0525-3-7.
5. Murphy GS, Brull SJ. Residual neuromuscular block: Lessons unlearned. Part 1: Definitions, incidence, adverse psychological effects of residual neuromuscular block. Anesth Analg 2010; 111:120-128.
6. Patient injuries from anaesthesia gas delivery equipment. Mehta SP, Eisenkraft JB, Posner KL, Domino KB. Anaesthesiology 2013; 119: 788-95.
7. The ergonomic inconvenience can cost ORs over $60 per minute due to delays. Source: Optimizing your Operating Room: OR, Why Large, Traditional Hospitals Don't Work. International Journal of Surgery. Girotto, Koltz, Drugas. 2007.
8. Revolutionizing Patient Transport Monitoring, GE HealthCare usability study JB82084XX. The comparative usability study was conducted in a simulation center whereby intubated OR patients were transported to the ICU by transport nurses.
9. SPI portion of Adequacy of Anaesthesia concept is not available for sale in USA and has not been cleared or approved by FDA.
10. GE HealthCare benchmark studies from 2011: GE HealthCare PCV to Tidal Volume Data Collection Test Results. Actual results may vary and are dependent on the patient. DOC0933949/DOC0970424.
11. GE HealthCare Carestation 600 and 700 Series Anesthesia Control Board Software Design Description. DOC1993491 Rev 2. April 2023.
12. There are several online resources available to learn more about the environmental impact of anesthetic agents including: Ishizawa, Y. General Anesthetic Gases and the Global Environment. Anesth Analg. 2011 Jan;112(1):213–7. DOI: 10.1213/ANE.0b013e3181fe02c2 Ryan, S.M., and Nielsen, C.J. Global Warming Potential of Inhaled Anesthetics: Application to Clinical Use. International Society for Anaesthetic Pharmacology July 2010 111(1):92–8. DOI: 10.1213/ANE.0b013e3181e058d7.
13. ECRI Institute Healthcare Product Comparison: Anesthesia Units. 2011.
14. Shores, R.T., Meuti, K.N., Hogan, G.T., and Pabalate, J. Consumption Feedback to Reduce Inhalation Anesthesia Costs: A Quality Improvement Project. Nursing Economics May/June 2022, Vol 40(3):109–117. http://www.nursingeconomics.net/necfiles/2022/MJ22/109.pdf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Not all products or features are available in all markets.

Full product technical specifications are available upon request. Contact a GE HealthCare Representative for more information. Please visit www.gehealthcare.com

Data subject to change.




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