

GE Healthcare

# Avance® Carestation®

Innovating with you, shaping exceptional care





# Clinician inspired perioperative solutions

GE's Avance® Carestation® was developed using an approach to perioperative solutions – close and continuous collaboration with clinicians. With you as our guide, we designed a compact, integrated anesthesia carestation that combines our advanced anesthesia delivery, anesthesia patient monitoring, and information management. By combining these care elements with our supplies and services, we deliver an essential component of your integrated perioperative solution.

## **Advanced anesthesia ventilation**

You asked for sophisticated ventilation capabilities that help you meet the needs of the full patient range. The Avance satisfies your request with the 7900 SmartVent™ ventilator. Ventilation capabilities include: PCV-VG Volume Control, Pressure Control, PSVPro,™ SIMV (Volume and Pressure), and manual ventilation.

The SmartVent uses a similar gas delivery system to that found in most critical care ventilators, yet has been adapted specifically for anesthesia applications and is easily controlled via our intuitive user interface.

The SmartVent's advanced modes, PCV-VG Synchronized Intermittent Mandatory Ventilation (SIMV) with Pressure Support and PSVPro® (Pressure Support with apnea backup mode), expand the clinical capabilities of the Avance to help meet the needs of your patients. With an adjustable flow trigger, electronic PEEP and an apnea backup mode, the SIMV and PSVPro modes help simplify the work of caring for your spontaneously breathing patients.

# Precise, accurate digital gas mixing

Rapid response time and accuracy provides you with exceptional fresh gas control and efficiency.

- Low flow anesthesia supported: minimum gas flow of 150 mL/min.
- 500 millisecond mixer response time – even for significant flow changes – allowing you to deliver exactly what you want, exactly when you want it
- Since the mixer delivers fresh gas directly to the inspiratory port on command, there is little fresh gas or agent wasted to “charge the circuit.” This facilitates low flow clinical practices – even when changing from very high flows to very low flows
- Intuitive and fast setting of fresh gas flow mixture makes using our innovative gas mixer easy
- Dual flow sensing technology helps to ensure proper operation. Gas flow is checked 200 times per second to insure the Carestation is delivering the proper blend based on your setting
- Electronic cylinder pressure sensing technology alerts you when cylinders are low
- Alternate O<sub>2</sub> control provides an independent fresh gas source and flow meter control when required – helping you to support your patient under unforeseen conditions







## Fast gas delivery with GE's Advanced Breathing System (ABS)<sup>™</sup>

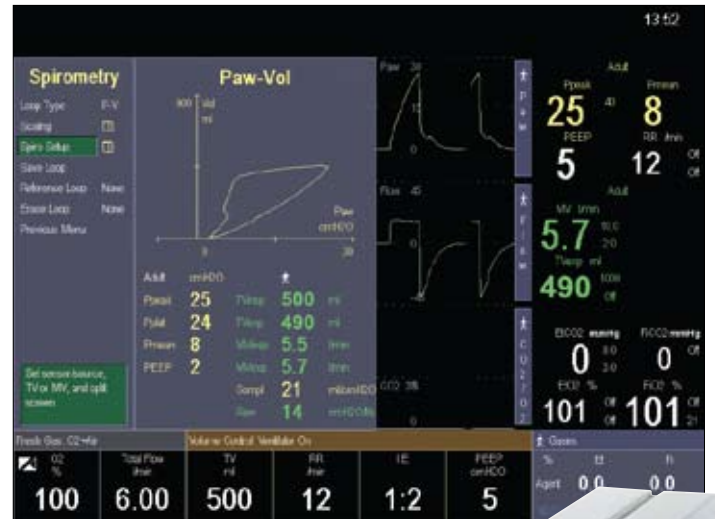
The Avance comes equipped with GE's Advanced Breathing System, the ABS.<sup>™</sup>

- Fully integrated into the Carestation
- Fewer parts and connections reduce the potential for leaks and misconnects
- Our Multi Absorber canister facilitates fast, easy removal and replacement
- Fully autoclavable. Quick, tool free removal
- Choice of gas scavenging options helps to provide compatibility with your existing waste gas system
- Easy on/off capability and no tools disassembly of the ABS facilitates easier cleaning and helps reduce maintenance time

# Enhancing your productivity

Special features of the Avance Carestation make it easy to use and enable you to focus more attention on your patient.

- System checkout is fast and intuitive, with full-color photo images to illustrate each step and confirmation tones when each test is complete. A real-time clock displays time to complete each test and the date and time it passed
- Case configurations may be set up and stored in advance so set up between patients is quick and easy – helping to improve workflow
- Pages allow the clinician to have several screens available for viewing patient data
- Patient trends can be displayed in three views: measured (numerical), settings, and graphical. Trend data is saved every five minutes for the most recent 48 hours and every 30 minutes from 48 hours to 14 days
- Quick Keys let you easily change O<sub>2</sub> and total flow settings or individual flows of each gas. You can use Vent Setup keys to enter and change multiple settings and one button to confirm them
- You can press any Gas or Vent key to take the machine out of standby and initiate gas flow to start the case, essential for emergency cases
- An 8-second power-down delay helps protect against accidental shutdown during a case
- Agent/gas usage is captured and displayed on screen or can be sent to EMR



Patient Spirometry™ measures airway pressures, flow, volumes, compliance and airway resistance breath by breath. On the Avance ventilation screen, the spirometry information is displayed as graphical loops, which may help you detect leaks or obstructions in the airway and adjust optimal ventilator settings. Because you can save up to six spirometry loops, Patient Spirometry offers you an intuitive tool for detecting changes in the patient's ventilatory status.

- Optional E-gas module can be physically integrated into Avance for Patient Spirometry
- Airway gases CO<sub>2</sub>, O<sub>2</sub> and N<sub>2</sub>O and anesthetic agent measurement with automatic identification, optional metabolic measurement
- Patient Spirometry measured at the patient's airway as shown on the Avance ventilation screen, or from the flow sensors
- A complete and integrated picture of your patient's ventilatory status

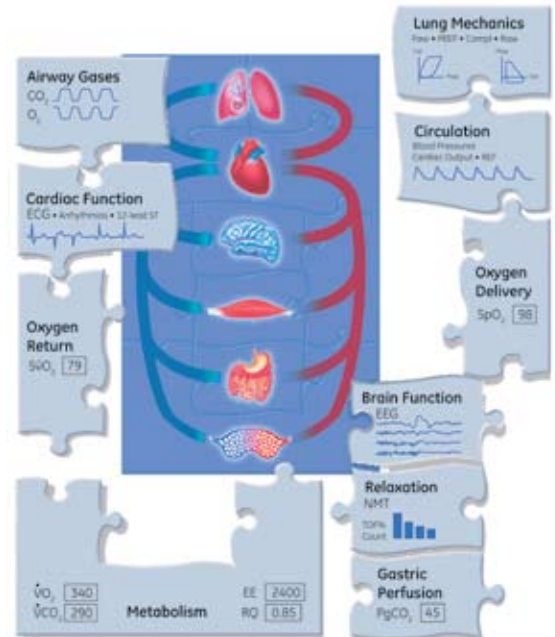
# Patient monitoring made easy

The GE Healthcare Anesthesia Monitor gives you the time and freedom to monitor your patient effectively. It offers what you need for effortless patient monitoring in the OR and beyond – a full range of monitoring parameters, intuitive use, modular configurability, transparent device integration, and data transfer.

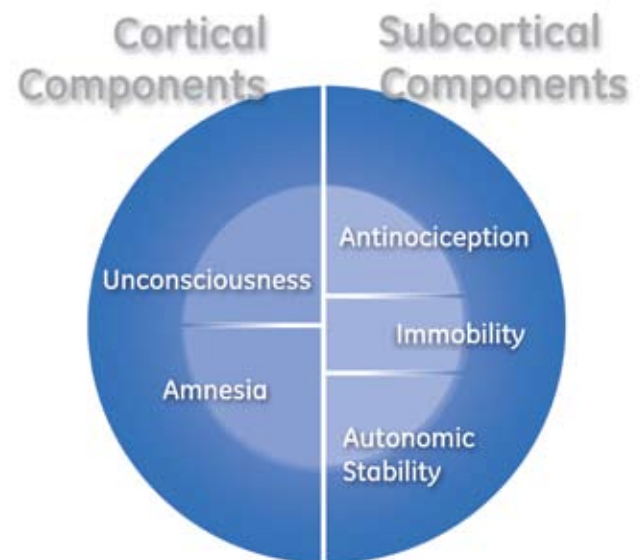
## A comprehensive Anesthesia Monitor

The GE Anesthesia Monitor incorporates vital parameters for anesthesia. In addition to the standard measurements, the modular system is expandable for more demanding operations with special needs. The flexible modular frame allows implementation of future enhancements.

The latest addition to the range of clinical parameters is the Entropy™ technology for monitoring the effects of certain anesthetics on the central nervous system of your patient. Combining the information gained by entropy and the rest of the adequacy of anesthesia parameters, like hemodynamics and neuromuscular transmission, helps give you full understanding of the state of your patient.



GE's anesthesia monitoring offers a variety of innovative clinical concepts and a full range of parameters. Its modularity makes it highly adaptable in virtually every clinical situation.



The eye on anesthesia signals our commitment to providing you with a complete range of clinical parameters to address the Adequacy of Anesthesia. It will help you to understand various components of anesthesia, specific effects of anesthetics, as well as drug interactions.





- Hemodynamic measurements of ECG, NIBP, up to six invasive blood pressure channels, temperature, SpO<sub>2</sub> and respiration rate
- Add SvO<sub>2</sub>, cardiac output and alternative SpO<sub>2</sub> technologies to obtain a thorough view of your patient's hemodynamic status



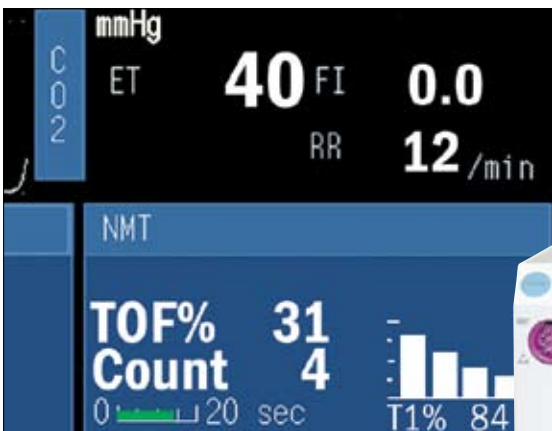
- 3-, 5- and 12-lead ECG with multi-lead arrhythmia analysis
- Adjustable ST alarms for lateral, inferior and anterior views of the heart
- Sophisticated trending displays your patient's ischemic status
- A sensitive tool for monitoring the neurophysiological status of the perioperative patient
- Compressed Spectral Array with Spectral Edge Frequency display trending



- Auditory Evoked Potentials for demanding neurological surgery close to the auditory nerves



- Innovative Entropy algorithm designed for monitoring the state of the central nervous system during anesthesia
- Enables you to adjust the anesthesia according to individual needs
- Helps to ensure fast and predictable wake-up and extubation, and avoid unnecessarily deep anesthesia



- The NMT module measures the patient's individual response to nerve stimulation and regional block
- Continuous hands-free measurement
- All simulation modes (TOF, ST, DBS, PTC) to optimize the patient's level of relaxation

# Integrated solutions designed to enhance your care

Our constant cooperation and interaction with clinicians allows us to continuously refine and improve our user interface capabilities and identify valuable integration benefits. We recognize that making our Carestations easy to use is one of the most important aspects we can provide to you and your practice.

## **Innovative ergonomic benefits**

- Intuitive user interface shared with all components of the Carestation
- Consistent menus, quick key actions and alarm management help minimize the need for training and reduce complexity during critical and non-critical events
- Flexibility with different display options for monitored data, pages
- Extra large work surface area – space to meet your needs, plus optional flip-up shelf
- LED light strip provides bi-level work surface illumination
- Mains electrical surge protection and battery backup provide operation capability even under abnormal power conditions

## **Support in decision making**

- By combining the set and measured inspiratory and expiratory gas values on the same full-color, 12 inch ventilation screen helps make the administration and control of gases delivered to the patient logical and easy to use
- Sophisticated, yet simple alarm management provides you with intelligent information when you need it most
- Help screens provide you with immediate assistance
- Strong commitment to enhancing the Avance's ability to provide decision support through intelligent parameter interaction

## **Make the right connection**

As we continuously improve care process management, we provide supplies and accessories solutions to optimize the efficiency of our Carestation.

## Seamless information flow

The Network integrates monitoring, anesthesia delivery and care process management across the care areas. Essential information is stored, including cardiac, hemodynamic, neurological and respiratory waveforms full disclosure for up to 72 hours. The information can be accessed remotely in real time, for example between the ORs and the PACU or other care areas, and can also be stored permanently for later use. Viewing of information can happen between any two networked monitors, or through the iCentral, Web Viewer or Pocket Viewer.

- The iCentral, Web Viewer and Pocket Viewer give you an integrated view of the patient status, wherever you are. At the point of care, at the office, in transit or at home
- The Anesthesia System is also an open platform that allows interfacing with Centricity® Perioperative Anesthesia or other information management systems



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## About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality and efficiency around the world.

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