



Carestation™ 750

Anesthesia Delivery System



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

KEY FEATURES

- Modern, premium, compact design for an optimized workspace utilization
- Simple and easy-to-use 15" touchscreen ventilator display
- Intuitive user interface, inspired by the CARESCAPE™ Monitor, makes for a seamless experience in the OR
- Integrated CARESCAPE Respiratory Module
- Advanced tools to help individualize therapy
- Scalable software and hardware features: "build your own" Carestation system
- ecoFLOW software helps support clinicians in the practice of low-flow anesthesia by predicting how much O₂ is needed within the fresh gas flow
- Electronic gas mixer

VENTILATION

- Small, Compact Breathing System (CBS) specifically designed for low-flow anesthesia
- Fast gas kinetics for rapid wash-in and wash-out
- Digitally controlled, flow valve ventilator to support all patient types from neonates to adults
- Advanced ventilation options, including synchronized PCV-VG with pressure support (SIMV PCV-VG) and minimum rate ventilation (CPAP+PSV)
- Lung Protective Ventilation tools, including single-step and multi-step Lung Recruitment maneuvers to optimize clinical outcomes, while reducing workloads for clinicians
- Continual fresh gas flow with fresh gas flow compensation during mechanical ventilation

DESIGN

- Ergonomic form factor for seamless and efficient workflow and serviceability
- Innovative cable management solution to organize power cables and gas hoses and to simplify installation, cleaning and transportability
- Easy to clean surfaces
- Extendable, tiltable, swiveling display arm for flexible positioning to stay close to the patient
- Two-vaporizer configuration
- Bi-level work surface illumination
- Absorbent canister designed for ease of use and long life
- Intelligent lighting that highlights active flow controls and auxiliary ports when in use

PHYSICAL SPECIFICATIONS

Product Description

Carestation™ 750 A1 Anesthesia Delivery System

Dimensions

Height:	144 cm/56.7 in
Width:	89.1 cm/35.1 in
Depth:	81.5 cm/32.1 in
Weight:	161 kg/355 lb*

Top shelf

Weight limit:	25 kg/55 lb
Width:	41.3 cm/16.3 in
Depth:	38.8 cm/15.3 in

Work surface

Height:	83.6 cm/32.9 in
Size:	1620 cm ² /251 in ²
Size: (with optional flip shelf)	2527 cm ² /392 in ²

Upper left Datex-Ohmeda (DO) dovetail

Dovetail length:	49 cm/19.3 in
------------------	---------------

Lower left Datex-Ohmeda (DO) dovetail

Dovetail length:	32 cm/12.6 in
------------------	---------------

Right Datex-Ohmeda (DO) dovetail

Dovetail length:	96.4 cm/38.0 in
------------------	-----------------

Drawers (internal dimensions)

Height:	
Top and middle:	8.6 cm/3.4 in
Bottom:	13.3 cm/5.2 in
Width:	34 cm/13 in
Depth:	37 cm/14.6 in

Manual ventilation bag arm (optional)

Arm length:	39.8 cm/15.7 in
Bag arm height: (adjustable)	53 cm/20.9 in 136 cm/53.5 in

Casters

Diameter:	12.5 cm/4.9 in
Brakes:	Central Brake



VENTILATOR OPERATING SPECIFICATIONS

Modes of ventilation – included

VCV (Volume Control) Mode with tidal volume compensation
PCV (Pressure Control Ventilation)
Cardiac Bypass

Modes of ventilation – optional

PCV-VG (Pressure Controlled Ventilation-Volume Guarantee)
SIMV (Synchronized Intermittent Mandatory Ventilation)
(volume and pressure)
PSVPro™ Mode (Pressure Support with Apnea backup)
CPAP+PSV (Pressure Support mode)
SIMV PCV-VG

Advanced software options

Spirometry (included)
Auto alarm limits (included)
ecoFLOW
Pause Gas
Recruitment maneuver
VCV Cardiac Bypass

Ventilator parameter ranges

Tidal volume range:	5 to 1500 mL (PCV modes 5 to 1500 mL) (Volume Control, PCV-VG and SIMV volume 20 to 1500 mL)
Incremental settings:	20 to 50 mL (increments of 1 mL) 50 to 100 mL (increments of 5 mL) 100 to 300 mL (increments of 10 mL) 300 to 1000 mL (increments of 25 mL) 1000 to 1500 mL (increments of 50 mL)

* Excludes vaporizers, airway gas module, patient monitor.

VENTILATOR OPERATING SPECIFICATIONS *(continued)*

Ventilator parameter ranges

Minute volume range:	Less than 0.1 to 99.9 L/min)
Pressure (P_{inspired}) range:	5 to 60 cmH ₂ O (increments of 1 cmH ₂ O) above set PEEP
Pressure (P_{max}) range:	12 to 100 cmH ₂ O (increments of 1 cmH ₂ O)
Pressure (P_{support}) range:	Off, 2 to 40 cmH ₂ O (increments of 1 cmH ₂ O)
Respiratory Rate:	4 to 100 breaths per minute for Volume Control and Pressure Control; 2 to 60 breaths per minute for SIMV, PSVPro mode and SIMV PCV-VG; 4 to 60 bpm for CPAP+PSV (increments of 1 breath per minute)
Inspiratory/ expiratory ratio:	2:1 to 1:8 (increments of 0.5) (VCV, PCV, PCV-VG)
Inspiratory time:	0.2 to 5.0 seconds (increments of 0.1 seconds) (SIMV, PSVPro and CPAP PSV)
Trigger window:	Off, 5 to 80% of Texp (SIMV, PSVPro) (increments of 5%)
Flow trigger:	1 to 10 L/min (increments of 0.5 L/min) 0.2 to 1 L/min (increments of 0.2 L/min)
Inspiration termination level:	5 to 75% (increments of 5%)
Inspiratory Pause range:	Off, 5-60% of Tinsp

Positive End Expiratory Pressure (PEEP)

Type:	Integrated, electronically controlled
Range:	OFF, 4 to 30 cmH ₂ O (increments of 1 cmH ₂ O)

Ventilator performance

Peak gas flow:	120 L/min + fresh gas flow
Flow valve range:	1 to 120 L/min
Flow compensation range:	150 mL/min to 15 L/min

VENTILATOR ACCURACY

Delivery/monitoring accuracy

Volume delivery:	> 210 mL = better than 7% ≤ 210 mL = better than 15 mL < 60 mL = better than 10 mL
Pressure delivery:	±10% or ±3 cmH ₂ O (larger of)
PEEP delivery:	±1.5 cmH ₂ O
Volume monitoring:	> 210 mL = better than 9% ≤ 210 mL = better than 18 mL < 60 mL = better than 10 mL
Pressure monitoring:	±5% or ±2.4 cmH ₂ O (larger of)

Alarm settings

Tidal volume (V_{TE}):	Low: OFF, 1 to 1500 mL High: 20 to 1600 mL, OFF
Minute volume (V_{E}):	Low: OFF, 0.1 to 10 L/min High: 0.5 to 30 L/min, OFF
Inspired oxygen (FiO_2):	Low: 18 to 99% High: 19 to 100%, OFF
Apnea alarm:	Mechanical ventilation ON: < 5 mL breath measured in 30 seconds Mechanical ventilation OFF: < 5 mL breath measured in 30 seconds
Low airway pressure:	4 cmH ₂ O above PEEP
High pressure:	12 to 100 cmH ₂ O (increments of 1 cmH ₂ O)

Sustained airway pressure:

Mechanical ventilation ON:	$P_{\text{max}} < 30$ cmH ₂ O, the sustained limit is 6 cmH ₂ O $P_{\text{max}} 30$ to 60 cmH ₂ O, the sustained limit is 20% of P_{max} $P_{\text{max}} > 60$ cmH ₂ O, the sustained limit is 12 cmH ₂ O
PEEP and mechanical ventilation ON:	Sustained limit increases by PEEP minus 2 cmH ₂ O
Mechanical ventilation OFF:	$P_{\text{max}} 12$ to 60 cmH ₂ O, the sustained limit is 50% of P_{max} $P_{\text{max}} > 60$ cmH ₂ O, the sustained limit is 30 cmH ₂ O
Subatmospheric pressure:	$P_{\text{aw}} < -10$ cmH ₂ O
Audio pause countdown clock:	120 to 0 seconds

VENTILATOR COMPONENTS

Flow transducer

Type:	Variable orifice flow sensor (autoclavable)
Location:	Inspiratory outlet and expiratory inlet

Oxygen sensor

Type:	Optional galvanic fuel cell or paramagnetic with Airway Module option
-------	---

Ventilator screen

Display size:	15 inch
Pixel format:	1024 x 768

Battery backup

Backup power:	Battery time is 90 minutes when fully charged, which supports full system functionality and ventilation.
---------------	--

Battery type:	Internal rechargeable sealed lead acid
---------------	--

Communication ports

RS-232C compatible serial interface

Ethernet

Datex-Ohmeda device interface solutions port

USB port

VGA Output

ANESTHETIC AGENT DELIVERY

Delivery

Vaporizers:	Tec™ 6 Plus, Tec 7, Tec 820, Tec 850
Number of positions:	2
Mounting:	Tool-free installation Selectatec™ manifold interlocks and isolates vaporizers

AIRWAY MODULES

General

Supported modules:	E-sCAiO, E-sCAiOV
Size (HxWxD), excluding water trap:	112 x 37 x 205 mm/4.4 x 1.5 x 8.1 in
Weight:	0.7 kg/1.5 lb

Sampling rate:	120 mL/min ±20 mL
----------------	-------------------

Automatic compensation for atmospheric pressure variation (495 to 795 mmHg) temperature and CO₂/N₂O and CO₂/O₂ collision broadening effect. Parameter display update interval typically breath-by-breath. Functional alarms for blocked sample line, D-fend™ Water Trap check and D-fend replacement.

Non-disturbing gases:

Ethanol, acetone, isopropanol, methane, nitrogen, nitric oxide, carbon monoxide, water vapor, freon R134A (for CO₂, O₂ and N₂O):
Maximum effect on readings: CO₂ < 0.2 vol% ; O₂, N₂O < 2 vol%; AA < 0.15 vol%

Carbon dioxide (CO₂)

EtCO ₂ :	End-tidal CO ₂ concentration
FiCO ₂ :	Inspired CO ₂ concentration

CO₂ waveform

Measurement range:	0 to 15% (0 to 15 kPa, 0 to 113 mmHg)
Accuracy:	± (0.2 vol% + 2% of reading)

Datex-Ohmeda infrared sensor

Adjustable low and high alarm limits for EtCO₂ and FiCO₂

Respiration rate (RR)

Measurement range:	4 to 100 breaths/min
Detection criteria:	1% variation in CO ₂

Adjustable low and high alarm limits for respiration rate; alarm for apnea

Patient Oxygen (O₂)

FiO ₂ :	Inspired O ₂ concentration
EtO ₂ :	End-tidal O ₂ concentration
FiO ₂ -EtO ₂ :	Inspired-expired difference

O₂ Measurement

Measurement range:	0 to 100%
Accuracy:	± (1 vol% +2% of reading)

Datex-Ohmeda differential paramagnetic sensor Adjustable low and high alarm limits for FiO₂ and EtO₂; alarm for FiO₂ < 18%

Nitrous Oxide (N₂O)

Measurement range:	0 to 100%
Accuracy:	± (2 vol% +2% of reading)

AIRWAY MODULES (continued)

Anesthetic Agent (AA)

Isoflurane

Measurement range: 0 to 6%
Accuracy: $\pm(0.15 \text{ vol\%} + 5\% \text{ of reading})$

Sevoflurane

Measurement range: 0 to 8%
Accuracy: $\pm(0.15 \text{ vol\%} + 5\% \text{ of reading})$

Desflurane

Measurement range: 0 to 20%
Accuracy: $\pm(0.15 \text{ vol\%} + 5\% \text{ of reading})$

Waveform displayed

MAC value displayed (Airway Gas Option modules)

MACage value displayed (CARESCAPE modules)

Identification threshold: 0.15 vol%**

Agent mixture detection

Adjustable high and low alarm limits for EtAA, FiAA

Patient Spirometry

Pressure-volume loop

Pressure-flow loop

Flow-volume loop

Airway pressure and flow waveforms

Adjustable low and high alarm limits for P_{peak} , $PEEP_{\text{tot}}$ and MV_{exp}
Alarms for $MV_{\text{exp}} \ll MV_{\text{insp}}$ and for MV_{exp} low. Detection through D-lite™ Flow Sensor or Pedi-lite Flow Sensor and gas sampler with following specifications:

CARESCAPE Airway Modules

	D-lite(+)	Pedi-lite(+)
Respiration rate:	4 to 35 breaths/min	4 to 70 breaths/min

Tidal volume

Measurement range:	150 to 2000 mL	5 to 300 mL
Accuracy**:	$\pm 6\%$ or 30 mL	$\pm 6\%$ or 4 mL

Minute volume

Measurement range:	2 to 20 L/min	0.1 to 5 L/min
--------------------	---------------	----------------

Airway pressure

Measurement range: -20 to +100 cmH₂O
Accuracy**:
Display units: cmH₂O, mmHg, kPa, mbar, hPa

Flow

Measurement range: -100 to 100 L/min -25 to 25 L/min

I:E

Measurement range: 1:4.5 to 2:1

Compliance

	D-lite(+)	Pedi-lite(+)
Measurement range:	4 to 100 mL/cmH ₂ O	1 to 100 mL/cmH ₂ O

Airway resistance

Measurement range: 0 to 200 cmH₂O/L/s

Sensor specifications

	D-lite/ D-lite(+)	Pedi-lite/ Pedi-lite(+)
Dead Space:	9.5 mL	2.5 mL

Resistance

at 30 L/min:	0.5 cmH ₂ O	
at 10 L/min:		1.0 cmH ₂ O

ELECTRICAL SPECIFICATIONS

Current leakage

100/120V	< 500 μ A
220/240V	< 500 μ A

Power

Power input: 100-120 Vac, 50/60 Hz
220-240 Vac, 50/60 Hz
120/220-240 Vac $\pm 10\%$, 50-60 Hz

Power cord:

Length: 5 m/16.4 ft
Rating: 10A @ 220-240 Vac or
15A @ 100-120 Vac
10A @ 120/220-240 Vac

Inlet modules

100/120 V:

Without outlets:	2A
With outlets:	12A

220/240 V:

Without outlets:	2A
With outlets:	8A

Outlet modules (optional)

100/120 V:

4 outlets on side, from top to bottom: 3A, 2A, 2A, 1.5A, individual breakers, isolation transformer (optional)

**Typical value

ELECTRICAL SPECIFICATIONS *(continued)*

Outlet modules (optional)

220/240 V:

4 outlets on side, from top to bottom: 1.5A, 1A, 1A, 1A, individual breakers, isolation transformer (optional)

Japan:

3 outlets on side, from top to bottom: 3A, 2A, 2A, individual breakers, isolation transformer (optional)

PNEUMATIC SPECIFICATIONS

Auxiliary O₂ (optional)

Connection: 7-10 mm hose barb port

O₂ concentration range: 100% O₂

Flow range: 0 to >10 L/min

Auxiliary O₂ +Air (optional)

Connection: 7-10 mm hose barb port

O₂ concentration range: 100% O₂ only, or 21% to 100% O₂ with Air

Flow range for O₂ and Air: 0 and 150 mL/min to 15 L/min

Auxiliary common gas outlet (optional)

Connector: ISO 22 mm OD and 15 mm ID

Gas supply

Pipeline input range: 280 kPa to 600 kPa (41 psig to 87 psig)

Pipeline connections: DISS-male, AS4059, S90-116, or NIST All fittings available for O₂, N₂O, and Air, and contain pipeline filter and check valve. Secondary O₂ pipeline inlet available.

Cylinder input: Pin indexed in accordance with CGA-V-1 or DIN-477 (nut and gland); contains input filter and check valve. Large cylinder kit available for O₂ and N₂O (with DIN-477).

Note: Maximum 3 cylinders

Primary regulator diaphragm minimum burst pressure: 2758 kPa/400 psig

Primary regulator nominal output: < 345 kPa/50 psig
Pin indexed cylinder connections
< 414 kPa/60 psig
DIN-477 cylinder connections

O₂ controls

Method: N₂O shut off with loss of O₂ pressure

Supply failure alarm: < 252 kPa (36.55 psig)

O₂ flush: Range: 25 to 75 L/min

Fresh gas

Flow range: 0 and 150 mL/min to 15 L/min
Minimum total flow O₂ and balance gas is 150 mL/min

Measurement accuracy

for O₂, Air and N₂O: ±5% of setting value, or ±20 mL/min (larger of)

O₂ concentration range: 21% to 100% when Air is available

O₂ Cell accuracy: ± 2.5% full scale plus 2.5% of reading

Compensation: Temperature and atmospheric pressure compensated to standard conditions of 20°C and 101.3 kPa

Hypoxic guard: Electric Mixer: Provides a nominal minimum 25% concentration of oxygen in O₂/N₂O mixture.
ALT O₂, 0 to 8-15 L/min

Materials

All materials in contact with patient breathing gases are not made from natural rubber latex.

ENVIRONMENTAL SPECIFICATIONS

System operation

Temperature: 10° to 40°C (50° to 104°F)

Humidity: 15 to 95% relative humidity (non-condensing)

Altitude: -440 to 3200 m (520 to 800 mmHg)

System storage

Temperature: -25° to 60°C (-13° to 140°F)

Humidity: 15 to 95% relative humidity (non-condensing)

Altitude: -440 to 4880 m (425 to 800 mmHg)

Oxygen cell storage: -15° to 50°C (5° to 122°F)
10 to 95% relative humidity
500 to 800 mmHg

ENVIRONMENTAL SPECIFICATIONS (continued)

Electromagnetic compatibility

Immunity:	Complies with all applicable requirements of EN 60601-1-2
Emissions:	CISPR 11 group 1 class A
Standard compliance:	AAMI ES60601-1, CSA C22.2 #601.1, EN/IEC 60601-1, ISO 80601-2-13
European Notified Body	
CE Mark:	CE0197

BREATHING CIRCUIT SPECIFICATIONS

Carbon dioxide absorbent canister

Absorbent capacity:	Reusable canister 1370 mL Disposable canister 1400 mL
---------------------	--

Ports and connectors

Exhalation:	22 mm OD ISO 15 mm ID taper
Inhalation:	22 mm OD ISO 15 mm ID taper
Bag port:	22 mm OD (15 mm ID), ROW 22 mm ID, Australia

Bag-to-Ventilator switch

Type:	Bi-stable
Control:	Controls ventilator and direction of breathing gas within the circuit

Integrated Adjustable Pressure Limiting (APL) valve

Range:	0.5 to 70 cmH ₂ O
Tactile knob indication at:	30 cmH ₂ O and above
Adjustment range of rotation:	0.5 to 30 cmH ₂ O (0 to 230°) 30 to 70 cmH ₂ O (230 to 330°)

Materials

All materials in contact with exhaled patient gases are autoclavable, except O₂ cell, and Airway Modules. All materials in contact with patient gases are not made from natural rubber latex.

Breathing circuit parameters

Compliance:

Bag mode:	1.81 mL/cmH ₂ O (filled disposable absorber canister) 1.74 mL/cmH ₂ O (filled reusable absorber canister)
Mechanical mode:	Automatically compensates for compression losses within the absorber and bellows assembly
Volume:	2006 mL Ventilator side 500 mL Bag side 1000 mL Reusable canister 1000 mL Disposable canister

Expiratory resistance in bag mode:

Flow rate	P _{exp} Absorber canister Installed	P _{exp} Absorber canister Removed
5 L/min	0.57 cmH ₂ O	0.57 cmH ₂ O
30 L/min	2.47 cmH ₂ O	2.47 cmH ₂ O
60 L/min	5.60 cmH ₂ O	5.60 cmH ₂ O

Note: Values include patient circuit tubing and wye piece (0.65 cmH₂O at 60 L/min)

Anesthetic gas scavenging

AGSS Type	Hospital extract system required	Machine connection
High vacuum, low flow:	High vacuum 36 +/- 3 L/min @ 12 inHg (305 mmHg)	SIS evac
High vacuum, low flow:	High vacuum 25-30 L/min @ 12 inHg (305 mmHg)	DISS evac
Low vacuum, high flow:	Low vacuum 50 to 80 L/min ISO 1H	BSI 30 mm threaded
Low vacuum, low flow:	Low vacuum 25 to 50 L/min ISO 1L	12.7 mm hose barb, 25 mm hose barb, or 30 mm ISO taper
Passive:	Passive system with air break	30 mm/1.2 in M ISO taper



Product may not be available in all countries and regions.
Contact a GE Healthcare representative for more information.
Please visit www.gehealthcare.com

© 2020 General Electric Company - All rights reserved.

Product may not be available in all countries and regions. Please visit www.gehealthcare.com.

General Electric Company reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your GE representative for the most current information. GE, the GE Monogram, Carestation, CARESCAPE, PSVPro, Tec, Selectatec, and D-lite are trademarks of the General Electric Company. GE Healthcare, a division of General Electric Company. GE Medical Systems, Inc., doing business as GE Healthcare.

Datex-Ohmeda, Inc. a General Electric Company.

This document applies to Carestation 750 A1.

DOC2322002 Rev 3