



Aladin Cassette

Anesthetic agent vaporizer with electronic control

Electronic control — a new concept for vaporizing anesthetic agent

The GE Healthcare Aladin™ Cassette is a new concept for vaporizing anesthetic agent. The S/5 ADU™ electronic control helps provide unique features such as automatic record keeping of set agent concentration and agent usage calculation. Agent specific Aladin Cassettes can be used to deliver enflurane, isoflurane, halothane, sevoflurane and desflurane anesthetic agents.

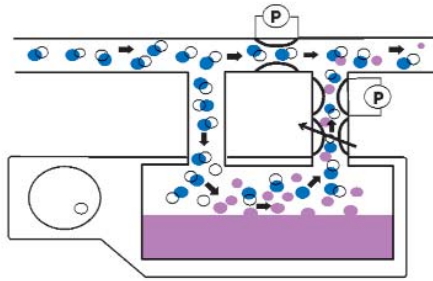
- Electronic Control allows for automatic record keeping, gas usage calculation, fresh gas flow compensation and concentration compensation
- Each cassette is magnetically coded for its specific agent allowing the S/5 ADU to automatically identify the anesthetic cassette being used
- Lightweight cassette allows for easier handling
- Virtually maintenance free
- Three filling options include: key fill, Quik Fil™ (sevoflurane only) and Saf-T-Fil™ (desflurane only)
- O₂/N₂O/AA ratio control helps prevent hypoxic fresh gas mixtures — minimum 25% O₂ concentration
- Provides fresh gas flow and concentration compensations
- Vaporizer self check and diagnostics

* Quik Fil is the registered trademark of Abbott Laboratories and currently not available in the United States.



How it works

In the S/5 ADU, anesthetic agent control consists of two parts: the electronic control mechanism in the anesthesia machine and the separate Aladin agent cassettes.



Agent concentration is adjusted by regulating the amount of fresh gas flowing through the cassette. A throttle valve regulates how much fresh gas flows to the agent chamber. Part of the fresh gas bypasses the cassette, so the more fresh gas allowed to pass through the chamber, the greater the concentration. Both flows are electronically measured to control the throttle valve.

Each Aladin Cassette is magnetically coded for its specific agent. This allows the S/5 ADU to recognize which agent cassette is inserted.

The agent vaporizes freely in the cassette without pressurization or heating. The cassette has a temperature measuring sensor at the rear where the temperature of the agent is measured. The pressure inside the cassette is measured from the cassette flow before entering the cassette. The fresh gas content (O_2 and N_2O/Air) is taken into account to help achieve greater accuracy.

Benefits

Easier to handle

- The Aladin Cassette can be handled or stored in any position.
- Weighing only 2 to 3 kg/4.4 to 6.6 lbs, the Aladin Cassette can be easily carried and handled.

Automatic record keeping and gas usage calculation

- Electronic control of desired agent concentration provides agent setting data for automatic record keeping and fresh gas flow data.
- Gas usage data provides a unique tool for low flow savings analysis.

Enhanced safety

- During the daily system check, the S/5 ADU performs a check on the Aladin Cassette and agent control mechanism.
- S/5 ADU agent control is also monitored during operation.

Virtually maintenance-free

- The Aladin Cassette is virtually maintenance free!
- The S/5 ADU electrical control can be calibrated using the S/5 ADU's intuitive service menu.

Filler wheel first locks the key filler and then opens the gas and liquid channels. An overfilling protection system is built in.





Physical specifications

Dimensions

Height:	70 mm/2.8 in
Depth:	230 mm/9.0 in
Width:	140 mm/5.5 in
Empty weight:	
enflurane, isoflurane, sevoflurane:	2.0 kg/4.4 lb
halothane:	2.5 kg/5.5 lb
sevoflurane Quik Fil:	2.5 kg/5.5 lb
desflurane:	3.0 kg/6.6 lb

Cassette handling

No restriction for tilting during storage or handling.

Agent capacity

Total:	250 mL
When cassette indicator shows empty:	150 mL (100 mL residual volume)

Environmental specifications

Filling

Overfilling protection:	Overfilling prevention system built into the cassettes
Filling system:	Keyed adapter filling for halothane, enflurane, isoflurane and sevoflurane. Saf-T-Fil bottle filling for desflurane. Quik Fil for sevoflurane.

Temperature

Operating range:	10° to 35°C/50° to 95°F
Storage range:	-10° to 60°C/14° to 140°F

S/5 ADU Electronic specifications

Accuracy

All agents in typical operating conditions. Fresh gas flow range 0.2 to 8 L/min. Ambient temperature 18° to 25°C/64.4° to 77°F.

Sea level ambient pressure:

cassette 5%	±0.15% v/v or ±10% (whichever is greater)
cassette 8%	±0.25% v/v or ±10% (whichever is greater)
cassette 18%	±0.55% v/v or ±10% (whichever is greater)

In other operating conditions:

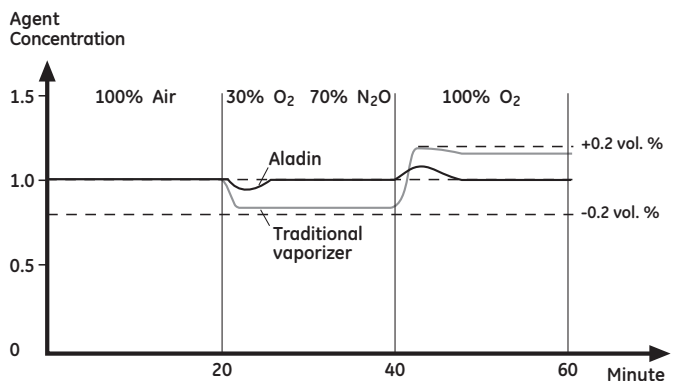
cassette 5%	±0.25% v/v or ±20% (whichever is greater)
cassette 8%	±0.40% v/v or ±20% (whichever is greater)
cassette 18%	±0.90% v/v or ±20% (whichever is greater)

Agent setting ranges

Halothane, enflurane, isoflurane:	OFF, 0.1 to 5% in fresh gas flow, resolution 0.1%
Sevoflurane:	OFF, 0.1 to 8% in fresh gas flow, resolution 0.1%
Desflurane:	OFF, 0.5 to 18% in fresh gas flow, resolution 0.5%
Minimum fresh gas flow for agent delivery:	0.2 L/min will allow agent delivery; 0.15 L/min will shut off the agent delivery

Operation

Agent concentration



* Unlike conventional vaporizers, the Aladin Cassette is able to take into account the fresh gas flow concentrations due to the S/5 ADU's integrated electronic fresh gas flow measurement.

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