

Sapphire™

Acute Care Infusion System



Simplicity. Performance.
Care. By Design.

Elevate care and confidence with the advanced design of the Sapphire infusion system.



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Do what you do best—care for your patients. With the Sapphire™ infusion system, you can.

The jewel in infusion systems, the Sapphire pump helps you deliver exceptional care, thanks to its patented technology, innovative design, and intuitive touch screen.



Keeping Focus on Your Patients

The simplicity of the Sapphire infusion system may help reduce the time needed to administer medication, which could give you more time to spend with your patients. And the prioritized PIEB delivery mode may help to increase patient satisfaction.^{1,2}

- › Simple to program or choose preset options
- › Multiple epidural delivery modes (PCEA, Epidural Intermittent, and PIEB) that can help reduce overall analgesia delivered^{1,2}
- › Easy-to-read color touch screen that centrally displays key infusion parameters
- › Rechargeable battery with up to 24 hours of use (@ 125 mL/hr with fully charged battery and backlight off)

TOMORROW BRINGS CHANGE. SO DOES SAPPHIRE.

Your future just got brighter with the Sapphire's touch-screen technology. The Sapphire infusion system uses touch-screen buttons, which help the design stay flexible and allow the pump to meet your needs today and adapt when those needs evolve.

Confidence

Your confidence—our measure of performance.

- › Unique pumping system design
 - Precise infusing at $\pm 2.5\%$ accuracy*
 - Free flow protection: hardware- and set-based
- › Durable construction lessens likelihood of pump failure
 - Resistant to fluid and dust ingress (IP24)
 - Fewer than 175 parts
 - LEXAN® screen
 - Cassette door not integral to pumping process
- › Drug library editor (DLE) to build a drug library and/or configure key infusion parameters from a central location
 - Drug library
 - Hard and soft limits
 - Up to 1,000 drug profiles
- › Highly sensitive upstream/downstream occlusion sensors can detect as little as 0.02 mL of air in line
- › Extensive event history log (8,000 events) for infusion history and troubleshooting

Intuitive

Your workflow just got easier with an infusion pump designed to work as you do.

- › Simple, straightforward easy-to-use, easy-to-read, color touch screen
- › Human factors-driven design for easy setup, programming, and readability
- › Easy maintenance, including remote manual system certification to help ensure pump performance
- › Full range of non-DEHP sets
- › Multitherapy and epidural pumps available



*Subject to external conditions such as tubing, pressure, bag position relative to the pump, barometric pressure, humidity, and temperature.

Key Specifications

	MULTI THERAPY	EPIDURAL
Screen	3.2-in color portrait QVGA	
Dimensions	(H x W x D) 143 x 96 x 49 mm (5.63 x 3.78 x 1.93 in)	
Weight	504 g (17.8 oz) with battery	
Pumping mechanism	Single-channel volumetric, with integral pressure sensor	
Infusion modes	Continuous, Intermittent, TPN, PCA, Multistep, Epidural (PIEB, PCEA, and Epidural Intermittent)	Epidural (PIEB, PCEA, and Epidural Intermittent)
Accuracy	$\pm 2.5\%$ (subject to external conditions such as tubing, pressure, bag position relative to the pump, barometric pressure, humidity, and temperature)	
External power supply	100-240V 50-60 Hz, 0.6A	
Battery	<ul style="list-style-type: none"> › Rechargeable Li-ion battery 7.4V, 1960 mA/hr › 24 hrs @ 125 mL/h (with a fully charged battery, and backlight off) › Recharge time: up to 6 hrs (when pump is not in operation) 	
Water ingress and dust protection	The Sapphire pump meets the IP24 splash/dust standard according to IEC 60601-1-11	
KVO rate	Up to 20 mL/hr in increments of 0.1 mL/hr	
Flow rate	0.1–99.9 mL/hr in increments of 0.1 mL/hr; 100–999 mL/hr in increments of 1 mL/hr	
Volume (VTBI)	0.1–9999 mL (increments of 0.1 mL)	
Downstream occlusion	Up to 17.4 PSI (1.2 Bar or 900 mmHg)	
Prime	Manual or automatic prime (600 mL/hr, or from air in line alarm 900 mL/hr)	
Alarms	Alarms: Air in Line Cassette Misplaced Occlusions Check for Occlusion Downstream Occlusion Upstream Occlusion Flow Error Insufficient Battery	
Event History Log	8000 events	
Standards compliance	IEC 60601-1, UL 60601-1 and CAN/CSA C22.2 601.1-M90 medical electrical equipment, which classifies the Sapphire pump as: Class II; Type BF; Continuous operation; IP24 dust and splash proof; Not suitable for use in the presence of flammable anesthetic mixture with air or with oxygen or nitrous oxide IEC 60601-1-2: Electromagnetic compatibility. IEC 60601-2-24: Infusion pumps and controllers, which classifies the Sapphire pump as a Type 4 pump (continuous infusion flow, combined with bolus delivery). IEC 60601-1-11: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment. IEC 60601-1-8: Requirements for alarm systems in medical electrical equipment and medical electrical systems. Defibrillator compliance statement: Equipment Type BF Applied Part.	

Move Forward

with the Backing of a Leader

Your mission is to deliver the best medication therapy. Ours is to help make it possible. We understand that improving medication management is an ongoing process that requires training, service, support, and upgrades. At ICU Medical, we are committed to ensuring a successful implementation process and ongoing support.



- **Operational Expertise**

Our highly skilled project management teams help assemble your implementation plan.

- **Extensive Support**

An interdisciplinary team of pharmacists, nurses, account managers, and field service engineers help train your staff, and service and support the system.



For more information, visit www.icumed.com.

Rx Only. For safe and proper use of this device, please refer to the appropriate manual.

¹Wong CA, Ratliff JT, Sullivan JT, et al. A randomized comparison of programmed intermittent epidural bolus with continuous epidural infusion for labor analgesia. *Anest Analg*. 2006;102(3):904-909.
²Leo S, Ocampo CE, Lim Y, et al. A randomized comparison of automated intermittent mandatory boluses with a basal infusion in combination with patient-controlled epidural analgesia for labor and delivery. *Int J Obstet Anesth*. 2010;19(4):357-364.

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