

Vital Signs
A GE Healthcare Company

enFlow[®] IV Fluid / Blood Warmer

Improved patient
care saves



imagination at work

enFlow® IV Fluid/Blood Warming System

Better patient care can help save money

Cold and shivering patients are more than just uncomfortable. During the last two decades attention has focused on the dangers and costs of hypothermia, core body temperature of less than 36 °C (96.8 °F).

Increased potential for post-operative infections

“Even mild hypothermia reduces resistance to surgical-wound infection by directly impairing immune function (especially oxidative killing by neutrophils) and decreasing the cutaneous blood flow, which reduces the delivery of oxygen to tissue.”¹

Increased need for blood transfusions

“Patients in whom normothermia was maintained during surgery required 86% fewer units of red blood cells, 79% fewer units of plasma and 78% fewer units of platelets than patients in the hypothermic group.”²

Increased length of stay

“Hypothermic patients required approximately 40 min longer (94 ± 65 vs. 53 ± 36 min) to reach fitness for discharge, even when return to normothermia was not a criterion (P < 0.001). Duration of recovery in the two groups differed by approximately 90 min when a core temperature > 36 °C was also required (P < 0.001).”³

Increased hospital cost of hypothermia

“Meta-analytic results allowed us to conclude that hypothermia averaging only 1.5 °C less than normal resulted in cumulative adverse outcomes adding between \$2,500 and \$7,000 per surgical patient to hospitalization costs across a variety of surgical procedures.”⁴



Simplicity, Mobility and Delivery

Valuable work flow features

- No bulky cassettes or tubing jacket
- No controls to adjust
- No calibrations to conduct

Simple set up and operation

- Place the cartridge in-line
- Prime the IV line
- Insert the cartridge in the warmer and close the covers

The system warms fluids rapidly and automatically to a target temperature of 40 °C

Start in the pre-operative area

Preventing hypothermia is important throughout the entire perioperative experience, starting in the pre-operative period. An ounce of prevention is worth a pound of cure.

Providing care through all phases of the perioperative experience with other warming devices can be difficult and expensive. They may require either using multiple disposables or compromising your infection control protocols to accomplish what the enFlow system does with just a single cartridge.



Closer means warmer



The keyed design of the cartridge and warmer facilitates consistent and correct placement

The innovative design of the enFlow warmer enables it to be placed within inches of the IV site. The close proximity of warmer reduces the potential for fluid cooling within the IV line.

One cartridge for three areas is cost-effective

The small and unobtrusive disposable cartridge can connect into your current IV set. Your patients can be pre-warmed before entering the operating room. The cartridge can then move with the patient to the operating room where it may be placed into another warmer. It can also go with the patient when moved to the PACU and again fluid warming can continue.



Patient dedicated cartridge requires less than 4 mL priming volume and is placed in-line like other IV components using standard priming and aseptic techniques.

Product reordering information

Product Code	Description	Quantity
980100	enFlow Warmer	1/box
980121	enFlow Controller	1/box
980200	enFlow Disposable Sterile Cartridges [one (1) case contains 30 units, packaged in three (3) individual dispenser boxes containing 10 units each]	1/case
980202	enFlow Disposable Sterile Cartridges with 3" extension set [one (1) case contains 30 units, packaged in three (3) individual dispenser boxes containing 10 units each]	1/case

¹ Sessler, Daniel I. MD; Mild Perioperative Hypothermia. New England Journal of Medicine. 336 (24):1730-1737, June 1997

² Mahoney, Christine Brown, RN, PhD, MS & Odum, Jan RN, MS, COPAN, FAAN; Maintaining intraoperative normothermia: A meta-analysis of outcomes with costs. AANA Journal, April 1999, Vol. 67, No 2. 155-164

³ Lenhardt, Rainer MD; Marker, Elvine MD; Goll, Veronika MD; Tschernich, Heinz MD; Kurz, Andrea MD; Sessler, Daniel I. MD; Narzt, Edith MD; Lackner, Franz MD. Mild Intraoperative Hypothermia Prolongs Postanesthetic Recovery. Anesthesiology. 87(6); December 1997: 1318-1323.

⁴ Mahoney, Christine Brown, RN, PhD, MS & Odum, Jan RN, MS, COPAN, FAAN; Maintaining intraoperative normothermia: A meta-analysis of outcomes with costs. AANA Journal, April 1999, Vol. 67, No 2. 155-164

⁵ Weirich TL. Hypothermia/warming protocols: why are they not widely used in the OR?. AORN J. 2008;87(2): 333-344

Healthcare Re-imagined

GE is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world to discover new ways to predict, diagnose and treat disease earlier. We call this model of care "Early Health." The goal: to help clinicians detect disease earlier, access more information and intervene earlier with more targeted treatments, so they can help their patients live their lives to the fullest. Re-think, Re-discover, Re-invent, Re-imagine.

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Vital Signs Devices enFlow IV Fluid / Blood Warmer System includes proprietary technology and may be covered by U.S. Patent # 7,158,719 and additional patents pending

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