Bringing visibility to a core vital sign.

3M™ Bair Hugger™
Temperature Monitoring System
The 3M™ Bair Hugger™ Temperature Monitoring System is an accurate, noninvasive, easy-to-use temperature monitoring system that continuously measures patients’ core body temperature and provides standardization throughout the perioperative journey.

Consisting of a single-use sensor and reusable control unit, the Bair Hugger temperature monitoring system simplifies the existing temperature monitoring process while delivering accurate patient temperatures normally associated with more-invasive systems like esophageal, bladder, rectal or PA catheters.

Standardizing with one temperature monitoring system can help improve consistency, reduce opportunity for error, and eliminate the duplication of effort required to purchase and carry multiple products. The Bair Hugger temperature monitoring system provides clinicians with a single temperature monitoring method that can be used through each phase of the perioperative journey, improving clinical efficiency by streamlining the patient temperature monitoring process.

The Bair Hugger temperature monitoring system is one component of the 3M™ Bair Hugger™ normothermia system, a comprehensive solution that works seamlessly throughout the perioperative process to effectively and efficiently measure and manage patient temperature.

Setting a new standard in core temperature monitoring.

The limitations of many temperature monitoring methods — whether accuracy, invasiveness or the technology itself — are requiring hospitals to stock and use multiple modalities throughout the perioperative journey. Each method introduces variation based on its accuracy and technique.
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Start of pathway formation

Equilibration occurs within a few minutes, creating an isothermal pathway, bringing the core temperature to the surface.

When the skin is covered with “perfect insulation,” heat is prevented from leaving the body under the sensor.

Current technologies are unable to noninvasively measure core body temperature:

- Most invasive devices accurately measure core body temperature, but are limited to use with patients under general anesthesia or heavy sedation, typically only used in the OR.
- For patients under regional anesthesia or who are awake, noninvasive devices are typically used — however, these devices mostly estimate core body temperature.
- Wide variations exist in methods and techniques for measuring patient temperature, which can lead to inaccuracies.
- Accurate temperature measurement is crucial for providers to be able to actively manage patient normothermia and avoid the costly complications of unintended hypothermia.

The Bair Hugger temperature monitoring system provides an accurate, noninvasive, easy-to-use temperature measuring method that can be used perioperatively with both anesthetized and awake patients.

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How it works
A technology that is anything but skin deep:

Adhesive backing
Patient temperature thermistor
Insulating foam layer
Flex circuit
Insulating foam layer

Unlike passive skin surface temperature sensors, the Bair Hugger system’s single-use sensor consists of a thermal insulator adjacent to the skin that is covered by a flex circuit. Once connected to the Bair Hugger control unit, the flex circuit actively regulates its temperature to create a zone of perfect insulation — a condition that eliminates heat loss to the environment.

Formation of the isothermal pathway

Core temperature rising to the surface through isothermal pathway
Formation of the isothermal pathway

Core temperature rising to the surface through isothermal pathway

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When the skin is covered with “perfect insulation,” heat is prevented from leaving the body under the sensor.

Equilibration occurs within a few minutes, creating an isothermal pathway, bringing the core temperature to the surface.
Clinical evidence confirms core temperature.

The Bair Hugger™ temperature monitoring system has been compared with known invasive core temperature monitoring systems in both published clinical studies and abstract presentations. Sessler et al. (2012) compared 36,000 paired readings of the Bair Hugger temperature monitoring system and pulmonary artery catheter during non-emergent cardiac surgery, with results showing a $-0.23°C$ bias.\(^1\)

In other studies comparing the Bair Hugger temperature monitoring system with nasopharyngeal, esophageal and sublingual probes, the Bair Hugger temperature monitoring system had a bias of 0.05 to $-0.37°C$.\(^2\)\(^-\)\(^5\)

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**Graph based upon analysis taken from:** Wartzek T, Mühlsteff J, Imhoff M. Temperature measurement. Biomedizinische Technik/Biomedical Engineering. 2011;56(5):241-257.
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Accurate
In a clinical trial comparing the Bair Hugger system to pulmonary artery catheters, the Bair Hugger system bias was less than 0.23°C.¹

Noninvasive
A single-use sensor is placed on the patient’s forehead before surgery and is worn throughout the perioperative journey.

Continuous
The temperature is always displayed, allowing health care professionals to actively manage patient warming protocol as needed, when needed.

Consistent
The sensor stays on the patient, as it is disconnected from the sensor cable and reconnected at each point of care, eliminating the variability associated with clinician technique and use of multiple monitoring devices.
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3M™ Bair Hugger™ Temperature Monitoring System

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
<th>Sizes</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M™ Bair Hugger™ Control Unit</td>
<td>37000</td>
<td>Dimensions of Control Unit: 9.3 cm (3.7 in) high, extendable to 11.4 cm (4.5 in) high, 7.1 cm (2.8 in) wide, 4.3 cm (1.7 in) deep</td>
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<td>Weight of Control Unit: 128 g (4.5 oz)</td>
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<td></td>
<td></td>
<td>Length of the Sensor Cable: 400 cm (158 in)</td>
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<tr>
<td>3M™ Bair Hugger™ Sensor</td>
<td>36000</td>
<td>Dimensions of Sensor: 4.1 cm (1.6 in) diameter, 0.5 cm (0.2 in) thick</td>
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</tbody>
</table>

To order, please contact your local 3M Bair Hugger system sales representative or call customer service at 800-228-3957.

Visit bairhugger.com.

References:

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