

EXERGEN GLOBAL ANNOUNCES HEAT BALANCE SERIES, ITS FAMILY OF NON-CONTACT THERMAL MANAGEMENT SENSORS FOR RAPID BLOOD INFUSION & BLOOD WARMING SYSTEMS

Industry's Only Non-Invasive Temperature Measurement Technique Avoids Contamination Risk and Ensures Equipment and Patient Safety

WATERTOWN, Mass., and ZIJTAART, the Netherlands, January 31, 2017 - Exergen Global, an award-winning thermal solutions provider, today introduced its IRt/c-HB infrared thermocouple plus series, a family of non-contact sensors that help ensure accurate temperature measurement and sterility in medical equipment including rapid infusion pump systems and blood warming systems. The thermal management solutions employ Exergen's patented heat balance technique, the industry's only non-invasive method capable of measuring fluid temperature through metal or plastic, providing unmatched accuracy and ensuring sterility and patient safety.

Rapid infusion pump and blood warming systems play a crucial role in quickly providing fluids to patients during surgery, accidents, child birth or other trauma situations. In these scenarios, it is essential to quickly warm refrigerated fluids to body temperature and to accurately measure and control fluid temperatures throughout the process to avoid patient shock. Non-invasive thermal management techniques avoid fluid contamination that would jeopardize patient safety, making them an ideal way to assess temperature, particularly in trauma situations.

"The U.S. Food and Drug Administration and other safety organizations worldwide are mindful of past issues that have contributed to blood contamination and are instituting laws or guidelines to ensure patient safety. As a result, rapid infusion pump and blood warming system manufacturers are motivated to find methods that help improve their products' safety," said Dr. Frank Pompei, Exergen's CEO. "Exergen's IRt/c sensors, combined with our heat balance method, are proven to accurately and quickly measure fluid temperatures in medical devices without any contamination risk, providing a highly safe and reliable solution for a critical market need."

Exergen's heat balance method measures fluid temperature inside of devices by measuring both the tubing surface and ambient temperature, then calculating the internal temperature necessary to maintain the heat balance. A convenient clip head provides a reproducible mounting location for the sensor and can be quickly removed from used tubing and attached to new tubing.

Exergen's non-contact IRt/c-HB sensors provide numerous benefits in measuring temperature for rapid infusion pump and blood warming systems when compared to contact sensors, including:

1. **Sterility/re-usability/price:** invasive contact sensors can be used one time only. These disposable sensors must be sterile and are expensive. Exergen's sensors can be re-used, creating a big cost saving.
2. **Accuracy:** non-contact sensing is more accurate in all applications when compared to contact sensing. Contact sensors need to acquire the temperature of the object they are measuring, which means that the thermal mass of the contact sensor (even if it is very small) will affect the reading.
3. **Speed:** contact sensors are slower than non-contact sensors. This especially holds true when contact sensors are used on the outside of tubing, as the tubing wall itself slows the net response time.
4. **Ease of use:** contact sensors need to be placed in or on the target, which can be a tedious job to perform correctly, especially when measuring the temperature of a fluid inside a disposable component (tubing, cartridge). Exergen's solution includes a reproducible mounting system that is easier to place and very easy to install.

5. Unobstructed blood flow: The act of placing a contact probe in the blood stream disrupts uniform blood flow and risks triggering reactions that may damage blood cells. With non-contact sensors there's no contact with the blood and no disruption of the blood flow.

About Exergen's IRt/c Sensors

- Provide extremely fast readings -- up to 25ms
- Are self-powered and intrinsically safe, no service or calibration needed
- Offer repeatability error of 0,01°C (0.02°F) and interchangeability error of +-1%
- Require no maintenance.

About Exergen and Exergen Global (now known as CleverIR):

Exergen Corporation, the global leader in industrial and medical non-invasive temperature technology, provides non-invasive temperature measurement devices providing lower cost, higher accuracy, less invasiveness, and greater reliability than ever previously possible. Exergen is well known for its award-winning temporal artery thermometer in the healthcare and consumer market. The company was founded by Harvard-research scientist Dr. Francesco Pompei who holds over 70 patents. Exergen Corporation is based in Watertown, Massachusetts, U.S. Exergen Global is the worldwide solutions provider of Exergen Corporation's industrial non-contact infrared temperature sensor solutions and the recipient of the 2015 Global Frost & Sullivan Entrepreneurial Company of the Year Award (<http://bit.ly/2pYfsy4>).

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