

CLEAN MICRO AIR PURGE

The Challenge

Infrared temperature sensors are ideally suited for use in manufacturing, textiles, printing and other production settings, providing a highly effective solution to ensure machinery does not overheat or otherwise malfunction. However, oil, thread, dust, airborne chemicals and other debris emitted during production can quickly obscure the IR temperature sensing heads. Even the smallest amount of debris coating a lens can contaminate it and affect the reading: for example, if 5% of the lens area is covered, then 5% of the reading is lost. Additionally, the ambient heat present during production processes can reach as much as 175 degrees C, causing sensors to quickly overheat and produce inaccurate temperature readings. These issues are especially challenging when equipment requires micro IR sensors – typically used in tight areas or for up-close monitoring.

The Optimal Approach

To ensure that IR temperature sensor readings remain accurate, the sensing lens must remain clean and ambient temperature must be controlled. Using air to clean the lens and cool the sensor has proven to be a very cost-effective and efficient solution. Air is already available in the majority of production environments, or can be easily and cost-effectively added using low-cost air pumps.



Solution: Clean Micro Air-Purge Jacket

Exergen's Clean Micro Air-Purge Jacket provides an easy-to-implement solution that keeps its micro IRT/c sensor lenses cool, clean and debris free, helping to ensure accurate temperature readings and peak performance. The Jacket's small size (3/8" x 3" (9.5 x 76 mm) fits into tight areas and makes it possible to clean the lens surface with as little as 3.5 SCFH (1.7 L/min) of air. The device is designed to either use available instrument air, eliminating the need for additional hardware, or, in the absence of instrument air, use a small, inexpensive air pump. The airflow through the Air-Purge Jacket not only keeps the lens clean, but also cools the micro IRT/c sensor, allowing it to operate in environments of up to 347°F (175°C). Installing the Clean Micro Air-Purge Jacket is fast and simple, requiring only a standard 3/8" tube fitting or 3/8" ID tubing and an inexpensive, easy-to-use mounting bracket. The Clean Micro Air-Purge Jacket is fully integrated into Exergen's micro IRT/c sensor, passing savings on to customers and enhancing device performance quality.

Commercial Advantages Micro Air-Purge

- Significantly reduces sensor maintenance
- Ensures optimal performance for machines and apparatus
- Allows production in higher temperature settings
- Commercially integrated design is higher quality than add-on devices

Commercial Advantages Sensors

- Sensors do not need service or calibration in the field, saving costs and increasing reliability
- Interchangeability allows easy replacement in case of a damaged sensor
- Passive devices that are longer life and have no drift
- High repeatability
- MTBF of 1000 years



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