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Thermo Fisher launches Controlled-Rate Freezers providing optimal sample protection

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CryoMed Freezers deliver repeatable, consistent temperature performance, enhanced data traceability, and support GMP and 21 CFR Part 11 requirements



In line with the need for pharmaceutical research, cell and gene therapy, vaccine production and biobanking laboratories for dependable sample protection, the new series of controlled-rate freezers from Thermo Fisher Scientific provides precise, repeatable freezing capabilities, while enhancing data traceability to support GMP and 21 CFR part 11 requirements.

The Thermo Scientific CryoMed Controlled-Rate Freezers (CRF) safeguard sample safety and integrity using Type T thermocouples for real-time monitoring of chamber and sample temperatures. Precise temperature control, temperature uniformity and accelerated freezing are enabled via an air-handling system and dual solenoid valves capable of balancing liquid nitrogen (LN2) injection volumes. A remote alarm capability prompts corrective action to ensure ideal conditions are always maintained, notifying users of thermocouple failures, heater malfunction, breach of high/low temperature limits and power failures. Furthermore, the freezers' preventative maintenance indicator for LN2 solenoid replacement limits downtime.

Additionally, the CryoMed CRF systems feature built-in functionality specifically designed to support GMP and 21 CFR part 11 requirements, making it easier for laboratories to maintain regulatory compliance:

- An intuitive touchscreen user interface facilitates data traceability, allowing for easy set-up, operation and review of freezing runs, as well as events monitoring
- Run and event logs can be exported as .pdf files onto a USB stick connected to the CryoMed CRF systems
- Compatibility with vaporized hydrogen peroxide (VHP) cleaning techniques.

Mitch Coyne, vice president and general manager for controlled temperature technologies at Thermo Fisher Scientific said, "Precise control of the freezing rate is necessary to minimize the detrimental effects of undercooling and the heat liberated during the phase change process from water to ice. The new CryoMed CRF systems reliably and effectively protect samples from intracellular freezing, while supporting GMP and 21 CFR part 11 requirements, to meet even the most demanding application needs."

The CryoMed CRF systems are designed to suit varying application needs, being available in three capacities, while also offering six pre-set and up to 14 user-defined, custom freezing profiles. For maximum ease-of-use, a "run last" feature allows the same profile to be run consecutively at the touch of a button. The freezers enable three levels of accessibility to authorized personnel only, for optimal protection of freezing profiles and data.