

THERMOTRON®

CASE STUDY

PRIDE IN PRODUCTION:
Thermotron Helps Calibrate a Healthy Future



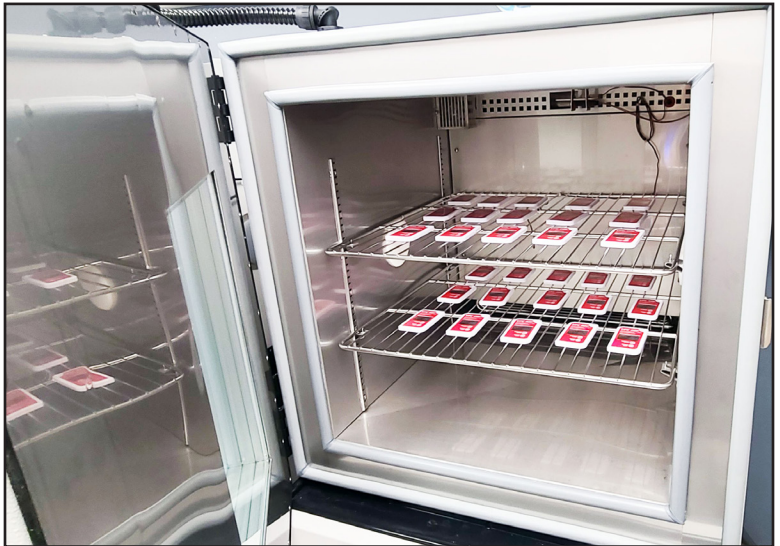
With accuracy and consistency paramount in calibrating vaccine data loggers, Control Solutions trusts Thermotron.

Now, the pride Thermotron takes in producing every piece of its equipment translates into a better, more healthy future.

PRIDE IN PRODUCTION: Thermotron Helps Calibrate a Healthy Future

At Thermotron, there is pride in each piece of hand-assembled test equipment, but there's a certain special feeling associated with knowing your product has contributed to an immense, positive impact on the world.

While COVID-19 brought the world to a standstill in 2020, rapid scientific breakthroughs provided us with a way out in the form of vaccines. Though the vaccines were incredibly effective, the need for an extremely cold, stable environment made distribution a challenge. That's where Control Solutions, with the help of a few Thermotron environmental test chambers, comes in.



Thermotron's consistent performance across the entire chamber is ideal for Control Solutions testing and calibrating numerous data loggers at once. The air flow design within the S-Series chambers ensures there are no hot or cold spots or inconsistent humidity levels that could negatively impact the calibration process.

Control Solutions was founded in 1996 in Oregon, and now specializes in calibrating data loggers. To ensure the accuracy and consistency of the temperature and humidity during the calibration process, Control Solutions relies on a group of Thermotron chambers, including both upright temperature and temperature-humidity test chambers.

"Basically, calibration or validation is comparing a known standard to an unknown device," Kevin Wick, President of Control Solutions, said. "We look at the Thermotron as our standard, so we regularly check the calibration on that with a primary standard.

"(The chambers) are comparing the temperature (the data loggers) are going to be used at. If the device is going to monitor a vaccine refrigerator, it's tested at 5°C, or if it's going to monitor a vaccine in a regular freezer, it's tested at -15°C, and then the ultra-low, we do at -70°C.

"All of which one Thermotron chamber handles with ease."

All vaccines are temperature sensitive, Wick explained, meaning if you freeze a vaccine that is supposed to be refrigerated, it will kill all the live reagents and result in a dummy shot. By testing and calibrating the data loggers with the Thermotron chambers, Control Solutions is able to give the end user peace of mind their vaccines are viable and being stored at the temperature the data logger is recording.

When Control Solutions first started calibrating data loggers, they were often paper chart recorders that would report a week's worth of recording with a felt pen. Wick saw this as an opportunity to utilize digital devices that would offer considerably more accurate data with date and time stamps. Now, Control Solutions calibrates devices that will indicate any time a temperature or humidity reading falls outside a specified range. Some even offer real time alerts.

"They will send out text and email notifications in the event there is an excursion so people can react immediately, because, while it's nice to have all this accurate data, if I come in on Monday and find out that on Saturday you



Founded in 1996, Control Solutions specializes in calibrating data loggers. With high accuracy and consistency requirements, the Oregon-based company turns to the performance and reliability provided by Thermotron chambers.

lost power for two hours, you might have to throw out \$40,000 worth of vaccines. That's where the real-time data devices come in," Wick said.

Wick's father, the founder of Control Solutions, first came across Thermotron environmental test chambers while calibrating them for another company. Now, the S-Series chambers are Control Solutions' choice to provide the most accurate and stable environments for its calibration processes.

"I think the performance, the ease of use, and the ease of doing business with you guys (brought us back to Thermotron)," Wick said. "I think you guys are right in line with about every manufacturer out there — or better — as far as performance and specifications. Just being familiar with your products, with your service department, the parts, calibration, all of that stuff, it was an easy transition for us."



A Thermotron at work, ensuring a Control Solutions vaccine data logger is correctly measuring the environment of the test subject within the chamber.

When it comes to calibrating the data loggers, it's the accuracy and consistency of the temperatures within the Thermotron chambers that are at the forefront. Each chamber is calibrated to National Institute of Standards and Technology (NIST) standards and the ISO 17025 spec to provide maximum performance capabilities.

The design of Thermotron's air distribution system also is a key feature, ensuring proper air flow throughout the test to prevent inconsistent temperature and humidity environments in different areas of the chamber.

"Because we have multiple shelves within those chambers, we'll put in 20 devices on each shelf, and we're seeing consistent results from top to bottom, left to right, front to back," Wick said. "We're not seeing cold or hot spots or high humidity or anything like that. So, we know if the

chamber is saying that it's 10°C, then we have a high confidence that it's 10°C in there. So, we're comparing the device against the Thermotron display directly."

Aside from just the vaccine monitors, Control Solutions provides calibration for data loggers that track temperature and humidity levels for, dietary supplement shipments, pharmaceutical warehouse storage spaces, wood drying warehouses, food production facilities, environmental organizations that are monitoring rivers, and more.



Utilizing Thermotron S-Series chambers, Control Solutions has spent the past 12 years calibrating data loggers for providers enrolled in the Vaccines For Children program who help distribute free vaccines to clinics and health departments which are inoculating the general public and those who cannot afford vaccines.

"There's a million applications out there that we're providing devices for and then testing them in (Thermotron) chambers," Wick said.

While the COVID-19 vaccines are the headliner right now, Control Solutions' work in public health goes beyond the pandemic. Since 2009, Control Solutions has worked with providers enrolled in the Vaccines For Children program run by the US Center for Disease Control. VFC distributes free vaccines to clinics and health departments to help inoculate the general public and those who cannot afford vaccines.

In order to be a part of the VFC program, there has to be an accredited data logging device accompanying the vaccines during transportation and storage, something that Control Solutions has been calibrating for the past 12 years.

"You're talking about the overall health of the general population," Wick said. "How important are vaccines? As we are seeing today, it's a life-and-death situation. Knowing that those vaccines are viable and stored properly is pretty meaningful."

For Thermotron, knowing our chambers are helping customers make a positive impact across the world is just one small piece of the pride and effort that goes into every piece of test equipment we produce.

For more than 55 years, Thermotron has provided quality environmental test equipment. We've worked to establish a trusted reputation among our peers, and when people hear the name *Thermotron*, they have confidence in the testing of their own product. We've been building our name since 1962; now it's your turn.

**QUALITY. TRUST.
CONFIDENCE.**
— BUILD YOURS WITH A —
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US: 291 Kollen Park Drive, Holland, Michigan 49423 | P: (616) 393-4580 | F: (616) 392-5643 | info@thermotron.com

UK: Winch Rd., Kent Science Park, Sittingbourne, Kent, ME9 8EF England | P: 01795 436333 | F: 01795 436777 | sales@thermotron.co.uk