Process Temperature Monitoring for a Pharmaceutical Company

Grant Squirrel DataLoggers Offer a Portable Temperature Profiling Solution

t / h 5ƛØφ LLΣ LyŎφ recently supplied the portable temperature profiling solution for a pharmaceutical company using extremely temperature-sensitive processes. In these operations, the chemical reactions were either endothermic (absorbing heat) or exothermic (giving off heat), meaning that the temperature gradually increased or decreased as each process reached the critical stage. The recording of this data ultimately enabled the company to monitor the reactions, including factors such as the absorption of gas, for example. As FDA standards became more stringent, accurate data logging became increasingly critical to daily operations. Audits demanded that a detailed history of a wide range of parameters be recorded in order to authenticate quality assurances and facilitate an investigation in the event of a product failure. Therefore, more precise temperature recording was required from the initial chemical reaction all the way through to the production of capsules and storage of both the ingredients and the end product. This device would need to be portable and have the ability to record sufficient data at high speed and accuracy, and compatible with several temperature sensor types.

CAS DataLoggers provided 3 DNJl·yűLyăűNdzYˆŜyűă {IjdzANJŜf {vнлмл t2NűI·ōfŜ 5l·űl· [2ƎƎŜNă to closely monitor the process temperatures, installed close to each chemical reaction vessel via an umbilical cable. This not only increased the number of channels that could be used for recording inputs, but also allowed the company to interrogate the loggers via a single cable and PC. Without this capability, it would be necessary to retrieve each individual logger, bring it to the PC for downloading, and then return to do the same for each reaction vessel. Instead, the processing of data was simplified. With up to 18 sensor ranges, each Squirrel logger accepted outputs from an extensive range of devices, making for a flexible solution.

Results from each of the reaction vessels were easily downloaded for historical documentation so that the company could establish temperature profiles at any given time. Thus, the parameters associated with each batch of pharmaceuticals (along with the date and time) were made readily available for future reference and audit. The included SquirrelView software also offered report generation for clear presentation of the process data.

In addition to monitoring the chemical reactions, the loggers were essential for other stages of pharmaceutical processing. During the advanced stages of production, temperature had to be monitored to ensure effective filling of capsules and product integrity. If the powder became too damp, for example, it would not flow. The Squirrels provided peace of mind by helping the company adhere to set parameters, while the addition of a counter facility enabled throughput recording as pills were batched.

Storage monitoring was also important, as the FDA mandated that facilities should be available for the storage of all materials under temperature-controlled conditions. Records needed to be maintained for these conditions since they were critical for the maintenance of the material characteristic. The Squirrel dataloggers kept the temperature under monitor, ensuring optimum storage conditions.

The pharmaceutical company's operations significantly benefited following installation of the SQ2010 temperature dataloggers. The portable and lightweight Squirrels recorded all the process and storage data at high speed and precison, using almost any sensor type. The recording of this data ultimately enabled the pharmaceutical company to accurately monitor the reaction temperature including factors such as the absorption of gas and many other parameters. The data loggers could also be linked to visual or audible alarms or connected to an auto-dial machine providing an early warning to a gatehouse or key holder should conditions deviate from set parameters. The recording of all this data ultimately enabled the pharmaceutical company to not only establish process temperature profiles but also to maintain proof of all regulatory compliance.

For more information on the Grant Squirrel SQ2010 Portable Data Logger, other Grant temperature dataloggers, or to find the ideal solution for your application-specific needs, contact a Data Logger Applications Specialist at (800) рпсπмммо or visit the website at ǿǿǿ⇕LJŎ2н⇕Ŏ2Y.