

New temperature controller makes bespoke requirements standard

The bespoke temperature control needs of one customer have been incorporated into the latest temperature control offering from Omron - the E5GC.

Fonmar is a manufacturer of vulcanising presses that apply a combination of heat and pressure to join or repair conveyor belts or tyres. For its new GAMMA press, the company wanted to offer a solution to meet the growing demand for increased accuracy of pressure and temperature control during the vulcanising process. It also wanted to address space restraint issues, aiming to create a more compact and portable system which included features that would make the machine simple to operate.

Daniel Jimenez, general manager at Fonmar, explained: "Dwell times – the time that the materials being vulcanised need to be held at a set temperature to ensure a good chemical bond – have, traditionally, been measured in minutes. However, the introduction of new materials now requires more precision, leading to a requirement for dwell times to be measurable in seconds to ensure the best possible seal.

"We also wanted to offer a more user-friendly machine. Having a text message display on the temperature controller – in place of the more usual numerical process variables – would make it easier for operators to follow the different stages of the machine cycle. Our new machine also needed to be lightweight and compact to make it easy to move around a facility to wherever it is needed," said Daniel.

As a long-term user of Omron equipment Fonmar approached the company for a solution. At the time, Omron was in the process of updating its temperature control range so was keen to incorporate Fonmar's needs into its development roadmap.

"Omron took our requests seriously. After initial meetings with local Omron staff we were visited by representatives from Europe and Japan. In less than 12 months we were able to launch GAMMA with all our temperature control demands having been met," enthused Daniel.

Adding the ability to measure dwell times in seconds was quickly achieved by Omron engineers, via a firmware change. This capability was considered to be so useful that it was immediately incorporated into Omron's existing E5GN temperature controller, upgrading it to the E5GC, to allow many other machine builders to offer greater temperature control precision straight away. Furthermore, giving the controller the ability to display simple four-letter messages instead of process values, was another feature requested by Fonmar that has become a feature of the new E5GC.

"To enable greater ease of use for equipment end-users, and in line with Fonmar's requirements, the variable numerical data display on the new E5GC temperature controller can now be replaced



with simple text instructions which makes it easier for operators to interpret. This feature can be enabled via software programming,” explained Felix Sanz, Product Engineer at Omron.

“Through internal programming of Fonmar’s controller software we also gave the new GAMMA machine the ability to set intermediate temperatures during the heating process,” continued Felix. “Instead of rapidly running up to final soak temperature, the process can be paused at a set point to allow the temperature across the belt to even out before continuing to heat up to the required final soak temperature.” This feature provides end-users of Fonmar equipment with greater precision when working with today’s demanding materials.

The E5GC forms part of a range of next-generation temperature controllers from Omron, all of which feature a high-contrast display to ensure operators always have a clear view – even from a wide viewing angle and in a variety of lighting conditions. Many features of the controller can be programmed via the CX-Thermo support software to assist with speedy parameter set-up and easy maintenance.

Meeting Fonmar’s needs for a more compact solution, the E5GC has dimensions of just 48 x 24mm and can be group mounted either horizontally or vertically, helping machine designers to reduce the overall dimensions of their machines.

For Fonmar, the features incorporated into the E5GC have helped it to create a superior solution which has ensured that its product offering stands out in a highly competitive market sector. “Partnering with forward thinking organisations like Omron adds significant value to our research and development capability, and central to the success of our business,” concludes Daniel.



About Omron

Omron Industrial Automation is a leading manufacturer of high-tech products and solutions for industrial automation. The company is part of the Omron Corporation founded in 1933 in Kyoto, Japan, and employs more than 37,000 people worldwide. The wide product range includes control, drive and safety technology, image processing and sensor systems, as well as control and switching components. The aim is to provide engineers with demand-driven, integrated automation solutions from a single source. In addition, Omron offers its customers comprehensive application know-how, as well as region-wide on-site service.