

CONTROLTM TECHNIQUES

DRIVES IMPROVE SAFETY OF WOODWORKING MACHINES

CUSTOMER PROFILE

Swiss company Krüsi GmbH manufactures machines used to cut timber for log cabins. The woodworking machines meet new stringent safety requirements and provide improved precision cutting thanks to a control system featuring drives from Control Techniques, designed and built by panel-builders Fichter and Zimmerli GmbH.

THE CHALLENGE

Tighter requirements for the emergency stop feature on woodworking machines, which stops the heavy, high-speed vertical milling heads moving when an access door is opened, were brought in, meaning that DC brakes were no longer up to the task. Krüsi turned to Fichter and Zimmerli for a solution.

THE SOLUTION

The woodworking machines are manually fed with wood sections, a clamp is applied and the machine goes through a programmed sequence under PLC control, drilling and milling out interlock corner joints for the log cabins / block houses, the average time per cut being just 15 seconds. Either four or five Commander SK AC drives were fitted to each machine, providing control of the vertical movement and rotation of the drill and milling heads (7.5 kW drives) and, on some of the machines the control of the cross cutting saw too (a 5.5 kW drive).

The access doors were fitted with interlocks, which return an 'open' signal to the PLC when opened, initiating an emergency shutdown during operation, stopping all rotating movements within the space of two seconds, even if the milling head is rotating at full speed.

THE BENEFITS

Fichter and Zimmerli recommended Commander SK drives from Control Techniques because they offered the best combination of price and quality, dynamic performance, and because the drives' compact size meant that the overall panel size was smaller, saving panel-building costs.

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The milling heads are between 240 and 270mm in diameter, rotating at up to 3,000 rpm, and they have a lot of inertia. However, with the new SK drives the stopping time is now just two seconds, which more than complies with safety requirements. The Commander SK drives have proved to be extremely accurate – and, of course, the better the accuracy of the joints, the better the thermal performance of the finished cabin.
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Herr Krüsi, Owner, GmbH



KEY BENEFITS

- SAFETY COMPLIANCE
- COMPACT DRIVES
- EXTREMELY ACCURATE

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