Complete standardization at the cold end

Bottero has fully equipped its machines – from the conveyor and main line, all the way to the stacker – with automation and drive technology from Siemens.

Bottero Group is a leader in many areas of the global glass industry, and it is also the largest supplier of complete solutions for the cold end of float glass lines. Today, Bottero machines are top sellers around the world. As the group’s sales volumes grew, so too did the need for standardized and modular solutions in order to meet customers’ diverse requirements.

This move also enabled a reduction in lead time for manufacturing and testing machines, both in-house and on-site. Bottero has subsequently decided to dispense with specific hardware and software. Instead, the machines are automated and driven by standardized, modular solutions from Siemens. This is good news for Bottero’s customers, who only need to know one name for spare parts, anywhere in the world.

Redundancy guarantees availability

The cold end comprises three areas: the conveyor for transporting and cutting glass plates, the main line for processing, and the stacker. All of these areas are operated decentrally with separate Siemens control units, which are interconnected in a redundant Profinet network. “We decided on a redundant solution to ensure system availability,” says Alberto Masoero, General Manager of Bottero’s Flat Glass Engineering Business Unit. If one of the control units should be out of operation, then another control unit can take on its tasks at any time. A higher-level PC network handles optimization, control and monitoring of technical processes (Scada), as well as data collection.

The conveyor and the main line are automated by Simatic S7-300 modular control units. Sinamics S120 modular servo drives regulate the movement of the conveyor, and ensure precise positioning of the glass plates. For loading glass onto transport racks, both robots and Cartesian gantry systems are used. The gantries are equipped with a Simotion D axis controller. The Simotion functionality for this controller is integrated directly into the control module of the Sinamics S120 drive system. The entire control and drive system is therefore exceptionally compact and responsive. Every robot-controlled stacker unit is equipped with modular Sinamics S120 drives and a S7-300 control unit that, via Profinet, coordinates the robot’s behavior. Each gantry and robot can also function independently as a stand-alone unit. This allows glass manufacturers to easily update their cold end – whether from Bottero or not – with a latest-generation Bottero stacker.

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Bottero is one of the leading suppliers of complete solutions for the cold end of float glass lines.