



KMW Engineering GmbH | Case Study Glass, Windows, Facades, Wood

Control, Drive Technology, and Software for Window Manufacturing Machines

KMW Engineering develops production machines for window manufacturing — equipped with hardware and software solutions from our Erfurt subsidiary REX Automation Technology. Initially focusing on corner cleaning CNC machines, the successful collaboration has now expanded to include the latest motion control for welding machines, glass stackers, machining centers for pergola profiles, and solutions for handling, transfer, and storage logistics.

“Our almost 20-year collaboration with KMW is of particular value to us. During this time, we have equipped many generations of window production machines with advanced control and drive technology as well as innovative software development for welding machines, corner cleaners and production lines.”

Matthias Rex | General Manager
REX Automatisierungstechnik GmbH



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Objective

KMW Engineering offers comprehensive production solutions for window manufacturing. Together with REX Automation Technology, standardized machines for welding and cleaning plastic windows of various sizes have been developed, as well as special machines in the areas of handling, transfer, and storage systems. REX AT handles the complete software development for PLC and HMI, as well as the integration with upstream and downstream production systems.

The Customer

KMW Engineering, based in Klingenthal, Saxony, has over 60 years of experience in mechanical engineering — from design and construction to manufacturing, commissioning, and customer service.

Innovations include the patented process for welding corner joints, creating a seamless film finish on visible surfaces.

KMW has been working in partnership with REX AT in the field of window manufacturing machines for almost two decades. In addition to supplying control and drive technology, REX AT is responsible for the software development of the welding machines.

Performance by Eckelmann

- › Supply of CNC and motion control technology from the Eckelmann Group, including I/O system
- › Commissioning
- › Supply of drive technology
- › Service and diagnostics
- › PLC development
- › Digital twin for virtual commissioning and better machine visualization
- › HMI: Development of an intuitive user interface

The Machines

Welding machines are manufactured for the simultaneous welding of four 90° corner joints on PVC profiles. In addition, transom joints can be welded or screwed in parallel to the welding process of the corners. The machine can be implemented in different versions with one software version: 4-head, 6-head or even 8-head.

In addition, CNC plastering machines are available in different versions with maximum processing speed and precision thanks to the latest linear technology.

REX AT is also a partner for handling, transfer and storage systems: for example, for the automatic, order-specific stacking and distribution of glass panes, including the implementation of an interface to the robot, which automatically inserts the panes into the window frame.

Supplied machine equipment, over

400

Axes for heavy-duty machines, up to

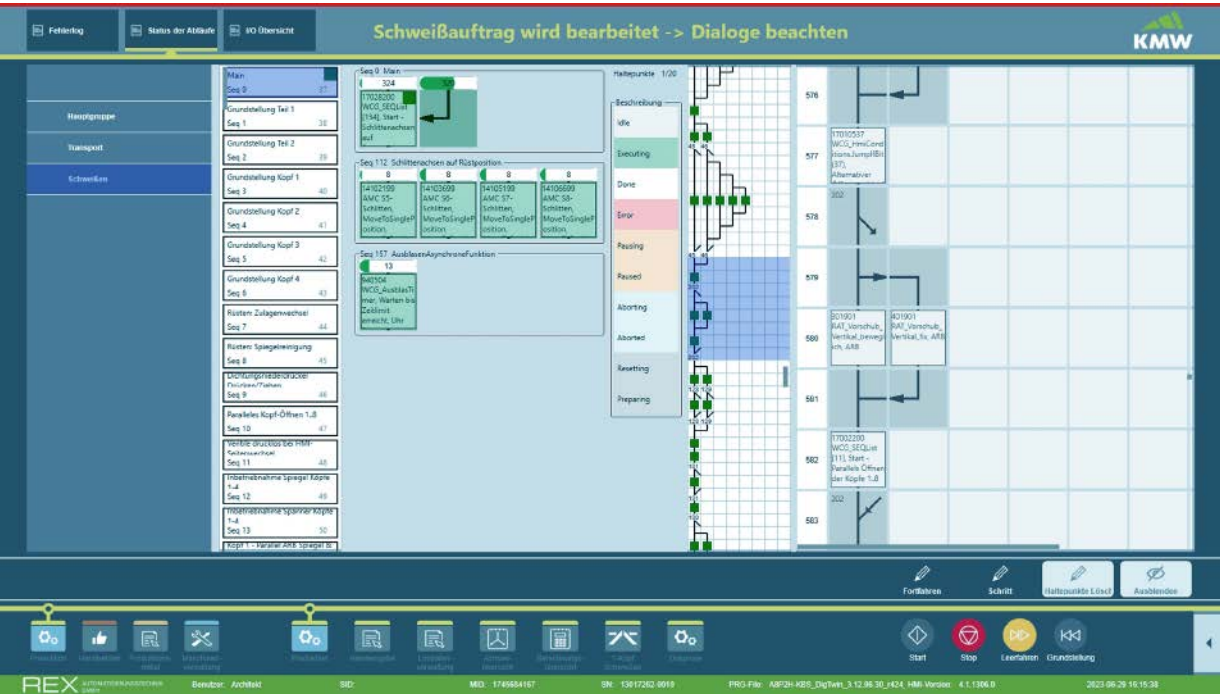
23

Glass stackers

7 Axes

Machining center with

9 Axes



➤ For KMW Engineering, the team from REX Automation Technology developed an HMI with a user-friendly, intuitive interface.

Special Features

The software framework used by REX AT allows machine processes to be created without programming knowledge. With a sequence editor, programmed individual functions can be combined via drag & drop. This allows for the continuous adjustment of run times on the machine. Optimizations, product adjustments, and functional extensions do not require changes to the PLC code.

Additionally, the live display of the sequence flow provides absolute transparency over all work steps and states.



By using the digital twin, these processes could be tested on the virtual model before commissioning the real machine: crash avoidance, cycle time analysis, and tests against various stages of series machines. This significantly reduced commissioning times on the real machine and, consequently, costs.

Do you have any questions?

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