

Micro glass panels: **CUGHER** precision in a compact format

Prominent for its ability to adapt to the specific needs of its customers, CUGHER continues to offer tailor-made solutions that combine technological innovation with flexible engineering. Here each production line is the result of targeted design, where the company's extensive know-how in both glass handling and screen-printing management get consistently translated into fully-customized production systems.

Strengthened by the proactive collaboration with customers that characterise the company's core values, Cugher's philosophy enables it to face complex production challenges by developing technologies that are capable of guaranteeing precision, reliability and continuity - even in the most demanding contexts.

ADAPTIVE ENGINEERING

Among its most recent applications, the company has met the challenge of designing an automated screen-printing line capable of handling micro glass panels as small as 100x15 mm - an extremely reduced format that requires the highest mechanical accuracy and process control. To achieve this goal, the entire line underwent deep re-engineering: every machine was redesigned or adapted with specific technical solutions for managing narrow glass panels, typical of the home appliance sector. The conveyors are one of the key elements of adaptation throughout the line. Equipped with Ø 18 mm





ground rollers, they are designed to ensure stable, continuous and vibration-free transport even for extremely small glass pieces. The corner conveyors use Ø 5 mm belts - closely spaced and interlaced with those of the next machine, allowing for the precise transfer of micro glass panels from one position to another without misalignment or risk of falling.

PRECISION IN PRINTING AND DRYING CONTROL

At the heart of the process is the Compact 100x30 automatic printing machine - a compact, fast and highly precise screen printer optimized for miniaturized glass, maintaining top print quality without compromise. Uniformity is guaranteed even on small surfaces,

with an impressive printing accuracy of ± 0.08 mm. Completing the line, the IR 100 dryer ensures uniform and safe drying thanks to Kevlar belt transport and small-diameter rollers, which preserve glass flatness during the thermal cycle. Electronic management of heating zones allows accurate control of temperature and dwell time, optimizing energy consumption and ensuring perfectly consistent treatment even for small batches.

CONCRETE RESULTS

The engineering approach adopted by Cugher has led to measurable results across several key parameters:

- Operational versatility: the line can handle glass thicknesses from 2.8 to 8 mm, adapting easily to

different formats down to the minimum required size of 100 x 15 mm, simplifying production changeovers and reducing setup time.

- Ease of operation: full automation eliminates most manual handling, improving operator safety and minimizing the risk of human error.
- Optimized cycle time: the process achieves a cycle time of 7.9 seconds for glass pieces of 800x100 mm, ensuring high productivity and consistent performance.
- Line speed: operating between 10 and 30 m/min, the line maintains a continuous and stable flow throughout all stages of the process - from printing to drying.
- Energy efficiency: thanks to a design focused on consumption optimization, the system delivers high sustainability and reduces overall operating costs.

These outcomes make the line a technologically advanced solution for the automated handling and processing of very small-format glass in industrial production.

COLLABORATION FOR A COMPETITIVE ADVANTAGE

The need for companies to stay aligned with market demands by automating processes that were previously handled manually was the starting point of this project. Cugher Glass responded by applying its full engineering expertise and experience to deliver solutions that enable its customers to preserve and strengthen their competitive advantage, ensuring production continuity, consistent quality, and reduced processing times. Today more than ever, Cugher is committed to maintaining a high technological and design standard, continuing to develop increasingly customized and innovative solutions that meet the evolving needs of the market and new production challenges. At the foundation of this ongoing evolution lies close and proactive collaboration with customers - a hallmark of Cugher's approach - transforming every requirement into an opportunity for innovation and shared growth.



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