

New benchmarks in fitting production:

ENGEL showcases series production on a world-first tie-bar-less innovation

Schwertberg, August 2025

With the new electric, tie-bar-less victory electric 220, ENGEL is presenting an injection moulding machine at K 2025 that is a genuine world first in terms of its design. It combines the benefits of ENGEL's tie-bar-less technology with maximum energy efficiency, high precision, short cycle times and a reduced footprint – addressing increased customer demands and making it ideal for use in fitting production. The new machine will be unveiled to the public for the first time at the centre of a fully automated production cell in Düsseldorf.



*Image 1: **World premiere at K 2025:** The new electric tie-bar-less ENGEL victory electric 220 takes centre stage in a fully automated production cell for fittings – compact, electric, efficient, and designed for maximum productivity.*

The new victory electric combines the advantages of two worlds: ENGEL's tie-bar-less technology and the benefits of electric injection moulding machines. The entire ENGEL victory series features compact machine dimensions thanks to the tie-bar-less design, offering a large platen area and a spacious, unobstructed mould area. This not only simplifies the handling of large moulds, but also significantly expands the possibilities for automation. This is a key advantage in the production of

fittings, where core pulls require substantial space within the mould area. Here, the tie-bar-less concept comes into its own: the spacious mould area often makes it possible to use smaller machine sizes. In addition, the high accessibility helps reduce setup times considerably. Electric injection moulding machines stand out for their high energy efficiency, precise reproducibility and short cycle times, while also requiring minimal maintenance.

The ENGEL production cell is designed for maximum productivity. Fully automated, it covers the entire manufacturing process for fittings – including assembly and quality assurance.

At the trade fair, the machine at the heart of this solution is equipped with a family mould from toolmaker ifw, producing four fittings in a single shot: two with a 90-degree elbow and two with a 45-degree elbow. A polypropylene from Borealis is processed with a shot weight of 4 x 80 grams.



*Image 2: **More fittings, less effort:** Robust and precise production with the new ENGEL victory electric reduces costs and sustainably increases output.*

The production cell is equipped with several digital assistance systems from ENGEL that enhance ease of operation, reduce scrap, and improve efficiency. One of the key highlights is the iQ hold control digital assistance system, which automatically optimises the holding pressure time. This can increase the number of parts produced by more than ten percent in many applications – a clear competitive advantage for injection moulders. The new iQ weight control plus system also significantly reduces scrap by automatically compensating for viscosity fluctuations in every shot.

This is done either via speed- or pressure-based control, using only two parameters, and can reduce scrap by up to 50 percent.

These systems are complemented by iQ process observer. It analyses up to 1,000 process parameters with every shot, detects deviations, and provides AI-based recommendations for optimising the process. The result is a stable, reproducible process with consistently high part quality.

Another element for increasing overall equipment effectiveness is ENGEL's digital set-up assistant. It guides the operator step by step through the mould change, reduces setup time by up to 80 percent, and enables even less experienced personnel to perform fast and safe changeovers. This represents a significant gain in efficiency, especially for production cells with frequent product changes.

The entire automation of the production cell is fully integrated. After demoulding, the parts drop directly onto a built-in Z-conveyor belt. This eliminates the need for a removal gripper and saves two seconds per cycle – an advantage for product variants with changing elbow angles or diameters. The parts are then detected by a camera system, picked from the belt by an ENGEL easix articulated robot, and handed over to a second easix robot, which feeds them to an automated ring insertion unit by Lüers. There, the seals are precisely inserted, checked for tightness, and the fully assembled fittings are discharged from the cell.

With this innovative production cell, ENGEL demonstrates its expertise in perfectly aligning machine concepts, digitalisation, and automation. The new victory electric 220 combines energy efficiency with maximum flexibility, creating a cost-effective solution for highly automated manufacturing. Customers benefit from significantly increased overall equipment effectiveness, a reduced footprint, and reliable process stability – even with changing requirements and high product variety.

Visit us at K 2025 in Düsseldorf, Hall 15, Stand B42 & C58

Images: ENGEL

ENGEL AUSTRIA GmbH

ENGEL is one of the world's leading manufacturers of plastics processing machinery. Today, as a single-source provider, the ENGEL Group offers a full range of technology modules for plastics processing as a single source supplier: injection moulding machines for thermoplastics and elastomers together with automation, but also individual components which are competitive and successful in the market. With ten production plants in Europe, North America and Asia (China and Korea) as well as subsidiaries and representatives in more than 85 countries, ENGEL offers its customers worldwide the optimum support which they need to compete and succeed with new technologies and leading-edge production systems.

Contact for journalists:

Tobias Neumann, Press Officer, ENGEL AUSTRIA GmbH
Ludwig-Engel-Strasse 1, A-4311 Schwertberg, Austria
Tel.: +43 (0)50 6207 3807 email: tobias.neumann@engel.at

Legal notice:

The common names, trade names, product names and similar cited in this press release are protected by copyright. They may also include trademarks and be protected as such without being specifically highlighted.

www.engelglobal.com