

ENGEL extends all-electric e-mac series to include 1300 kN machine

Even more cost effectiveness for small precision parts

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ENGEL is extending its all-electric e-mac injection moulding machine series to include a machine with a clamping force of 1300 kN, thus further strengthening its position as a one-stop supplier for applications with electric injection moulding machines. The new e-mac 130 is being presented at the first ENGEL live e-xperience 2020 from 13 to 16 October to demonstrate a challenging connector component production application.

An ENGEL e-mac 465/130 is producing actuators for Han-Quick Lock brand connector systems by HARTING in a 16-cavity mould for the market launch of the new size. Depending on the connector type, up to almost one hundred actuators are fitted in a single connector housing. They enable particularly fast and easy connection of stranded conductors.

Maximum dimensional accuracy and repeatability

The requirements for the small precision components, which weigh very little and have a strong wall thickness variance, are high. Very high rigidity is required to ensure a reliable function; this is achieved with a polycarbonate containing glass fibres.

All-electric injection moulding machines are preferred for the production of connector components in order to ensure maximum dimensional accuracy and repeatability of the filigree component structures. The cost-effectiveness of the machines plays an important role, especially in high-volume production. A wide range of connector variants are produced in large quantities including connectors for use in industrial applications. Connector systems by HARTING are used in ENGEL injection moulding machines, for example.

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For precision applications with cycle times of more than four seconds, the e-mac is often the most economical solution in the field of all-electric injection moulding machines. It combines high output with great flexibility, efficiency and an extremely compact machine design. With the smallest available injection unit, the new e-mac 130 measures only 4,400 mm in length. The clear tie-bar width is 530 x 530 mm. This means that the e-mac 130 offers the largest tie-bar spacing among all-electric injection moulding machines with a comparable clamping force.

All movements of the ENGEL e-mac – including the nozzle movement and ejection – are performed by servo-electric drives. This means that the machine achieves very high overall efficiency. If required, a servo-hydraulic unit can be integrated into the machine frame without requiring additional space. The e-mac machine is designed to be particularly maintenance-friendly. Ergonomics were the focus of attention in the positioning of interfaces and the barrel design.

The new size enables ENGEL to adapt the machine even more specifically to the requirements of the respective application in order to leverage efficiency potentials in an even better way. Besides in the electronics industry, ENGEL e-mac machines are used in the packaging, technical moulding and medical technology sectors.

Smart assistance for demand-driven control

The e-mac 465/130 is equipped with an ENGEL viper 12 linear robot for part removal and depositing in the production of plug actuators. Two smart assistance systems from the ENGEL inject 4.0 range are being used.

While iQ weight control readjusts the melt volume for each individual shot, ensuring consistently high quality of the injection moulded products and proactively preventing rejects, iQ flow control automatically adjusts temperature differences in the cooling water manifold circuit. To do this, the software uses the measured values determined by the e-flomo temperature control water manifold system. The result is constant temperature conditions, which also enhance quality and reduce rejects. Added to this is significantly improved energy efficiency, as the speed of the pumps in the ENGEL e-temp temperature control devices is also automatically controlled to reflect requirements.

Virtual, interactive trade fair with live exhibits

ENGEL is setting new standards with the ENGEL live e-xperience in a year that will not let the Fakuma show happen. Live exhibits, an online specialist congress and one-on-one meetings with familiar local contacts and other experts ensure that the virtual and interactive event is on a par with a physical trade fair.

For further information and the event programme: www.engelglobal.com/experience



ENGEL is strengthening its position as a one-stop supplier for applications with all-electric injection moulding machines with the new e-mac 130.



The requirements for the small actuators for connector systems, which weigh very little and have a strong wall thickness variance, are high.

Pictures: ENGEL

ENGEL AUSTRIA GmbH

ENGEL is one of the global leaders in the manufacture of plastics processing machines. Today, 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, with individual components also being competitive and successful in the market. With nine production plants in Europe, North America and Asia (China and Korea), and subsidiaries and representatives in more than 85 countries, ENGEL offers its customers the excellent global support they need to compete and succeed with new technologies and leading-edge production systems.

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