



Press release



Performance meets energy efficiency

Driving you eco: ENGEL at FAKUMA 2009

Schwertberg/Austria: August 2009 – The use of energy-saving machines and energy saving systems is still in the injection moulder's focus. And this makes it all the more important for the machine manufacturer to face these challenges and offer innovative and sustainable energy-efficient solutions for injection moulders. With a motto of "Driving you eco" ENGEL is exhibiting at FAKUMA 2009 in Friedrichshafen from 13th to 17th October. Energy optimised, powerful machine designs are the focus of this trade fair presentation. Besides an ENGEL speed with In-mould Labelling, 2 new models will be on show, a fully electric ENGEL e-motion 100 T for clean room applications, and an ENGEL victory 160 ecodrive. And: the "small large-scale machine series" ENGEL duo pico – complete with ecodrive.

Sustainable, energy-efficient, but powerful. Intelligent technological solutions from ENGEL effectively combine this requirement for modern injection moulding machine design. At this year's Fakuma in Friedrichshafen ENGEL will be presenting the latest developments in the field of energy efficiency. New systems, an energy-optimised design, or the new ENGEL ecograph analysis tool all go to show that ENGEL is not resting on its laurels in our economically challenging times, but pushing development ahead at full speed and thus offering its customers the best possible conditions for a successful market presence. And recent developments clearly show that this is the right approach. Because ENGEL is the among the leaders in energy efficiency. The four exhibits at Fakuma are perfect proof:



For even more efficiency: ENGEL duo pico with ecodrive

One of the absolute highlights at Fakuma is the new ENGEL duo pico – equipped with the energy-saving ecodrive system including speed controlled pumps. The variable drive motor speed helps to achieve the perfect operating point for each movement. The machine is additionally equipped with a plasticising drive. The hydraulic drive is disabled during plasticising. Compared with our main competitors, an ENGEL duo pico uses 25 percent less energy. And the ecodrive option means substantial energy savings on top. From an energy-technology point of view, this design is easily in the same range as a fully electric machine. At Fakuma, ENGEL will be showing a **duo 3550/500 pico ecodrive**. The machine will be producing a 1+1-fold PA mirror housing for the automotive industry using a mould with cooling by Stemke that uses a refrigerant as its cooling medium. Cycle times can be reduced by up to 30% by cooling the mould at exactly those places that a legacy water cooling system cannot access. The robot used here is an ENGEL ERC 33.

Premium class system solutions

In medical technology, ENGEL is once again demonstrating its system solution competence by presenting a fully-integrated application for the manufacturing of PP pipette tips on the new **ENGEL e-motion 310/100 T**. In a cycle time of just 6 seconds, the parts are injected, monitored by cameras, and deposited on racks sorted by cavity. The mould is by Tanner Formenbau AG from Feuerthalen/Switzerland; automation by Waldorf-Technik from Engen/Germany. Modern, electric machines offer many advantages for production in the field of medical technology. They are particularly powerful and offer a dry cycle of less than one second. The tie-bars are lubrication-free and the plate contacts are generously dimensioned. An oil return system on the toggle lever prevents contamination by operating resources.



Encapsulated clamping drives with a closed lubricating system for the ball-thread spindle mean that the visual appearance remains perfect. An emotional component that plays a significant role in establishing trust in the machine's clean room capabilities. Encapsulated drives and spindles and the oil-recovery system at the toggle lever guarantee further positive side effects: noise reduction, friction reduction and a harmonious sequence of movements. On the injection unit side, a dynamic injection drive with adjustment times in the millisecond range support injection speeds of up to 500 mm/s and injection pressures of up to 2800 bar. Again, encapsulated ball-thread spindles that run in an oil bath (low consumption, leak-free) with a high level of efficiency and encapsulated toothed belts offer best-of-class conditions for controlled production. The ENGEL e-motion medical series in particular combines best-of-class performance and cleanliness. It is available as a continuous series with up to 500 tonnes clamping force.

New size: ENGEL victory 160 with ecodrive

In the tie-bar-less field, ENGEL is exhibiting the new **ENGEL victory 160 – complete with ecodrive**. The victory 160 replaces the 150 tonne size and offers more space and flexibility in this clamping force segment. Equipped with Flex-Link including an integrated force divider as a factory standard (this is a patented system for high-precision platen parallelism and minimal wear and tear on moulds), the machine has an exciting, modern design and supports FEM (Finite Element Method) optimisation. FEM-optimised parts keep accelerated masses as low as possible. Besides greatly reduced dry cycle times, this also means considerable energy savings. On top of this, the victory 160 is the first fully-hydraulic injection moulding machine with the servohydraulic ecodrive. At Fakuma, the machine will be demonstrating the production of a shut-off weight for cisterns on a 2-fold mould by Büchler Werkzeugbau AG from Flawil/CH. The PP part is injection moulded in a cycle time of approx. 18 s and demoulded by an ENGEL ERC 23.



ENGEL speed 180/55 – High performance injection moulding for packaging

The **ENGEL speed 180/55** machine on show here, with a clamping force of 1,800 kN, will be producing polystyrene (143 E) airline cups which are decorated using the in-mould labelling (IML) method. With a cycle time of approx. 3.5 seconds, the machine achieves an output of just over 4000 cups per hour. The 4-cavity mould was produced by Glaroform AG, Näfels/Switzerland, and the fast take-off automation by Beck Automation, Oberengstringen/Switzerland.

New powerful robot generation

Besides injection moulding systems, ENGEL will also be presenting the new **ENGEL viper robot generation** – in an attractive stand-alone presentation. Maximum stability and optimum acceleration are the characteristics of the viper generation of robots. Vibration control software prevents structure-borne oscillations and the modern drive system guarantees best-of-class dynamics on a compact footprint. The ENGEL viper robot generation is a crucial step towards bolstering ENGEL's system competency; the viper 40 will be the first model to become available. Models 20 and 60 will become available early in 2010.

All told, this year's FAKUMA gives ENGEL a perfect backdrop to demonstrate high-performance energy optimisation and improved efficiency: four innovative exhibits, sustainable use of resources, and best-of-class performance are perfect proof.

ENGEL at FAKUMA 2009 in Friedrichshafen: Hall A5 Booth 5204



Picture 1: The ENGEL duo 500 – now new with ecodrive



Picture 2: ENGEL e-motion 100T for the manufacturing of PP pipette tips



Picture 3: ENGEL speed 180/55

ENGEL AUSTRIA GmbH

The ENGEL brand denotes the world's biggest manufacturer of injection moulding machines and, at the same time, one of the world's leading plastics processing machine manufacturers. 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, and automation, with the assurance that individual components are also competitive and successful in the world markets. With eight production plants in Europe, North America and Asia (China, Korea), subsidiaries and representatives in over 85 countries, ENGEL offers its customers the optimal global support they need to compete and succeed with new technologies and leading-edge production systems.

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