Press release

Engineering the Future:

ENGEL at K 2007

Schwertberg / Austria: September 2007 – "Engineering the Future" will be injection moulding machine manufacturer ENGEL's motto at the world's leading plastics trade fair, K 2007, from 24th to 31st October in Düsseldorf, Germany. As the world's biggest selling single brand ENGEL will again be exhibiting numerous machines, and process and application technology innovations from our injection moulding range. ENGEL's trade fair exhibits are geared to reflect the needs of five ENGEL target markets: the automobile industry, medical technology, the packaging industry, teletronics, and technical moulding.

With a total of 17 injection moulding machines, 9 of them at ENGEL's main booth that occupies a floor space of 1,100 m² in Hall 15, ENGEL will be exhibiting a cross-section of our machine, process and application technologies.

New: ENGEL e-max

The most important technical innovation on the machine side is the newly developed, compact, fully electric ENGEL e-max machine with a clamping force of 1,000 kN. As a precise, fully-electric machine with an extremely compact footprint, the ENGEL e-max offers a new clamping unit with tie-bars, a large opening stroke, and generously dimensioned mould fitting space. The tried-and-trusted injection unit achieves high injection speeds, high pressures, excellent precision, excellent dynamics and best-of-breed performance. Thanks to excellent performance, the ENGEL e-max offers excellent cost effectiveness.

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ENGEL be the first.

Two New Machine Sizes in ENGEL speed Range

As high-speed machines for injection moulding of packaging, the ENGEL speed series will serve the whole range of clamping forces from 1,800 to 5,000 kN starting at K 2007. The new machines are the speed 380 and speed 500 types with 3,800 and 5,000 kN clamping force respectively. According to ENGEL's information, these machines offer the shortest dry cycle of any packaging injection moulding machine on the market today.

The newly developed five-point dual-toggle lever offers excellent motion dynamics and smooth acceleration and braking characteristics. Active Speed Setup guarantees smooth running of the machine despite fast movements. After setting the opening stroke and speed, the machine sets all remaining parameters autonomously. The moving mould mounting platen is not mounted on tie-bars but on a moving carriage on the machine frame. Screw advance speeds of up to 1.000 mm/s guarantee precise and reproducible filling of moulded parts with extremely thin walls. The new IL 3560 inline injection unit can also be equipped with barrier screws for stress-reduced material plastification despite high output levels.

Highlight: GMP-Qualified ENGEL e-victory

ENGEL now has a fully electric ENGEL e-victory injection moulding machine that is GMP-qualified for use in clean rooms. The machine with a clamping force of 500 kN will be producing micro-fluid test elements, under strict clean room conditions at K 2007; these "labs on a chip" are sealed in plastic bags in the clean room.

Process Technology Highlights

New: Exjection® Process

Exjection® is a global technological innovation that retains the advantages of the legacy technologies of extrusion and injection moulding while avoiding their disadvantages, thus supporting the production of profile-type plastic parts using injection moulding technology. Engel has been actively involved in the development of Exjection® technology, a process that supports cost-effective production of long sections with integrated fitting, capping,

reinforcing and decor elements via a single injection point, and more or less in a single production cycle. Engel will be demonstrating the Exjection® method at K 2007 on a fully-electric Engel e-motion 200/55 injection moulding machine (clamping force 550 kN) with a mould for producing 930 mm thin-wall sections with a wall thickness of 1.2 mm

New Applications for the Dolphin process

The patented Dolphin process for the manufacturing of interior components with soft-touch surface through combined injection moulding and foaming has taken a further step towards serial deployment in the automobile industry: at K 2007 ENGEL will be demonstrating the Dolphin process as an alternative method of producing an armrest for a vehicle interior.

The first step in the Dolphin process involves injection moulding the PBT-GF raw component with soft-touch surface. The soft-touch surface is completed by foaming with TPE-E using ENGEL's foammelt technique. Thanks to extremely granular process controls, the surface of the moulded part is completely closed, and of a perfect visual quality, although the TPE mass used foams in the mould creating a low density foam core with appealing usage properties.

The Dolphin process will be demonstrated at K 2007 on a two-component ENGEL duo 5550H/1800M/900 WP combi M injection moulding machine (9,000 kN clamping force) with two horizontally juxtaposed injection units, a stack mould with rotating central platen, and platen parallelism controls integrated into the machine control unit.

Combination of ENGEL fluidmelt and ENGEL combimelt for Multiple-Branch Media Lines

The combination of the ENGEL combimelt two-component injection moulding process with the ENGEL watermelt water injection technology creates two-layer, multiple-branch media lines, removing the danger of fibre stripping, and guaranteeing an excellent chemical resilience of the interior layer against cooling media.

ENGEL developed the mould and process in cooperation with Phoenix Automotive, a ContiTech AG company. At K 2007 the project will be demonstrated on a tiebar-less, multiple component ENGEL victory 1050H/500W/150 combi injection moulding machine with two injection units for co-injection of the two plastic masses, and a third, integrated barrel-type injection system for water injection.

Larger Control Unit for More Convenience

As of K 2007, ENGEL will be equipping our injection moulding machines with new controller hardware. The operating panels on the EC 200 and CC 200 control units include tilting, vertically mounted, 15" colour touch screens that allow the operator to group functions individually, variably and in a clear-cut way.

ENGEL e-trainer as a "Flight Simulator" for Injection Moulding

Besides machine technology ENGEL will be presenting our injection moulding simulation programme, ENGEL e-trainer, which gives operators the ability to simulate machine functions and processes. Users can simulate setting up and operating a machine a CC 200 control unit. Learners can experiment with and gain experience on the injection moulding machine at their own pace, in an intuitive manner and realistically, but without any risk.

Leasing and Financing by ENGEL financial solutions

ENGEL offers leasing and financing options for its injection moulding machines under the ENGEL financial solutions brand. In addition to individual terms for various home markets, cooperation with Deutsche Leasing AG facilitates investments in machine technology.

ENGEL's presentation will be rounded off by expert corners on the subjects of ENGEL e-factory and ENGEL training. ENGEL's automation division will be presenting robot and handling concepts at a separate booth, 10 D 42, in Hall 10.

Engel Austria GmbH
The Engel brand denotes the world's largest 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 its customers a single-source for a full range of plastics processing technology modules for: injection moulding machines for thermoplastics and elastomers, moulds and automation, with the assurance that individual components are competitive and successful in world markets. With eight production plants in Europe, North America and Asia (China, Korea), subsidiaries in 17 countries, and representatives in over 70 countries, Engel offers its customers the comprehensive global support they need to compete and succeed with new technologies, and leading-edge production systems.

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