



## **GMP-Qualified Injection Moulding of Medical Products: ENGEL at K 2007**

**Schwertberg / Austria: September 2007 – injection moulding machine manufacturer ENGEL will be presenting a turnkey solution for the production of medical technology components and medical mass products at the world's leading plastics trade fair, K 2007, from 24<sup>th</sup> to 31<sup>st</sup> October in Düsseldorf, Germany. The fully electric ENGEL e-victory injection moulding machine is GMP-qualified for use in clean rooms. The machine with a clamping force of 500 KN produces micro-fluid test elements, under strictest clean room conditions; these "labs on a chip" (LOC) are sealed in plastic bags in the clean room.**

As an example of our huge range of medical technology applications, ENGEL will be demonstrating the manufacturing of a structured plastic plate with a large number of minute channels and gutters, of  $\mu\text{m}$  scale volumes that must be clearly formed to guarantee functionality of the chip in analysis equipment. LOCs are used for fast analysis of bodily fluids on site; a task that is typically the domain of large-scale labs today. Production of a "lab on a chip" made of Cyclo Olefin Copolymer (COC) with a 2-fold mould by z-werkzeugbau-gmbh, Dornbirn/Austria on a new, tiebar-less ENGEL e-victory 80/50 "Medical" injection moulding machine with servo-electrically driven injection unit. The machine was developed for compliance with c´GMP (current Good Manufacturing Practice) of the US FDA (Food and Drug Administration).

**ENGEL**

be the first.



To support systematic research into cause and effect of certain details of the machine's design, Engel invested in a Class 6 clean room to DIN EN ISO 14644-1 for the application technology centre at ENGEL's main works in Schwertberg, and certified the clean room to comply with c'GMP. One interesting detail of the new "Medical" injection moulding machine is the special design of its plasticizing system which avoids the hot, gaseous, plastic emissions from the nozzle area, and prevents the heat dissipating into the clean room.

At K 2007 the ENGEL victory 80/50 Medical will be linked with a small, TX40 six-axis robot by Stäubli, Bayreuth/Germany which is located in close proximity to the mould to handle moulded parts with minimal stroke lengths.

#### **Second Medical Technology Exhibit at Ewikon Booth**

Ewikon Heißkanalsysteme GmbH & Co. KG, Frankenberg/Germany (Booth B25 in Hall 1), will be showing a second medical technology exhibit. A fully electric ENGEL e-motion 200H/200W/100 combi machine with an ENGEL ERC 23/1-F robot will be demonstrating the production of a two-component part made of polypropylene and TPE.

#### **Versatile Machines, Processes and Applications**

Besides the medical technology qualified machine, the ENGEL e-victory, ENGEL will be exhibiting our high-performance ENGEL speed injection moulding machine, the dual-platen ENGEL duo machine series, tiebar-less ENGEL victory machines, the fully-electric ENGEL e-motion precision machine, and the ENGEL elast, which specialises in elastomer processing at K 2007.

**ENGEL at K 2007 in Düsseldorf:**  
**Hall 15 Booth 15 C 58 (main booth)**  
**Hall 10 Booth 10 D 42 (automation technology)**



GMP-qualified ENGEL e-victory 80/50 medical injection moulding machine with a small six-axis TX40 robot by Stäubli



Micro-structured plastic plate with miniature channels and gutters made of Cyclo Olefin Copolymer (COC), produced in a 2-cavity mould on the new tiebar-less, and GMP-qualified ENGEL e-victory 80/50 "Medical" injection moulding machine

Photos by: ENGEL



### **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 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 on 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 best-of-breed, global support they need to compete and succeed with new technologies, and leading-edge production systems.



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