



Less energy consumption – best performance

The ENGEL Product Innovations 2008

Friedrichshafen – October 2008. The new, small-scale ENGEL duo pico, the ENGEL e-victory with servo hydraulics and the additions to the robot series - these are ENGEL's latest developments. Sustainable energy efficiency, best performance and a favourable cost-performance ratio are the features that characterise the new machines. In line with our motto of "Energise your Future" - ENGEL is presenting its new designs at Fakuma 2008.

With raw material prices continuing to rise, and environmental issues on the increase, the need for energy efficient designs in mechanical engineering is becoming increasingly urgent. Reducing energy consumption while at the same time achieving best of breed performance are our focus. At Fakuma, ENGEL is presenting three solutions - two of which are brand new - and focusing on small-scale, medium-scale and, medium-to-large machines.

The new ENGEL duo pico

Demand for injection moulding machines in the 500 to 700 tonne clamping force class is growing steadily. And customer requirements are becoming increasingly complex. First and foremost, customers expect flexibility and economy. And this is exactly where the new ENGEL duo pico enters the scene: compact, short, fast, economic – geared for exacting quality requirements and available at a low price. To be more precise, this means a minimal footprint and low weight, thanks to the compact dual platen clamping mechanism, maximum energy efficiency and a very favourable cost-performance ratio paired with low additional investment as numerous "options" are included with the basic package. On top of this, the ENGEL duo pico offers a dry cycle of just 2.6 seconds, making it the fastest dual platen machine on the market.



Flexible deployment

Thanks to its hydro-mechanical clamping mechanism, the ENGEL duo pico offers major benefits compared with similar designs: lower energy consumption, a shorter dry cycle, higher clamping force, and improved platen rigidity.

If you compare the ENGEL duo pico with a third party machine in the same category, you can't help noticing the following added value:

- Energy consumption (10 min. dry cycle): **20 percent savings**
- Dimensions **19 percent savings**
- Cycle time (dry cycle time in line with EUROMAP 6) **32 percent savings**

All told, this is a high-precision, fast machine that offers maximum production efficiency for a low investment.

The ENGEL duo 500 pico was introduced in July 2008 and the range will be extended to include 600 and 700 tonne clamping forces in the next few months (availability starts at Fakuma).

The ENGEL e-victory with servo-hydraulics

Just like ENGEL's fully electric machines, the tiebar-less ENGEL e-victory with its high-precision, electrically driven injection unit and tried-and-trusted ENGEL victory clamping unit offers substantial energy saving potential. The use of a new hydraulic system makes the e-victory even more efficient. In contrast to the standard hydraulics with asynchronous motor used previously, the new system has a fixed displacement pump and servomotor. The benefits: this restricts the oil flow to the volume actually required, avoiding dissipation circuits and thus thermal dissipation loss to a large extent. In other words, the motor is only active during movements, with energy consumption dropping to virtually zero when the machine is idle.



Additionally, the machine is extremely quiet; cooling water requirements are far lower, and the hydraulics are "on board". The ENGEL e-victory thus achieves the same energy savings as comparable fully electric machines (especially when using hydraulic core-pulls). The ENGEL e-victory is always your best choice if you need compatibility with an existing range of moulds, efficient mould changing and easy automation capabilities. On top of this, the machine is perfectly suited for energy-saving production using moulds with hot runner nozzles and hydraulic high speed mounting systems.

To sum things up, the ENGEL e-victory is the ideal machine for energy saving production

- using moulds with hydraulic core-pulls and/or hot runner nozzles
- using hydraulic high speed mounting systems
- whenever you need the precision offered by an electric injection unit
- while at the same time benefiting from ENGEL's tiebar-less technology

The ENGEL e-max

The presentation of the new, compact ENGEL e-max at K 2007 was a milestone that extended the fully-electrical range. Innovative like any other ENGEL machine, but still slightly different, this is the ENGEL e-max: fully-electric and compact, extremely economical, but still equipped with the critical options that help customers optimise injection moulding. Besides a comparatively small footprint the ENGEL e-max offers maximum precision and process reliability due to its highly integrated drive and control technology. A high-performance injection unit guarantees best of breed performance and maximum reproducibility. This means assured quality. The range is available in four sizes between 50 and 180 t.



Robot series extended

In addition to this, the ENGEL linear robot range has been extended thanks to the introduction of the ENGEL ERC 43. This closes the previous gap between the ERC 63 and ERC 33 in the 110 to 1500 tonne clamping force range. The improved profile is another significant contribution by ENGEL towards improving efficiency in injection moulding operations.

As you can see: sustainable resource protection with maximum performance are what characterise injection moulding machines built by ENGEL. The latest machine developments provide impressive evidence of this.



Fig. 1: The new ENGEL duo pico



Fig. 2: The ENGEL e-victory with servo-hydraulics

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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