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East meets West

ARTICLES

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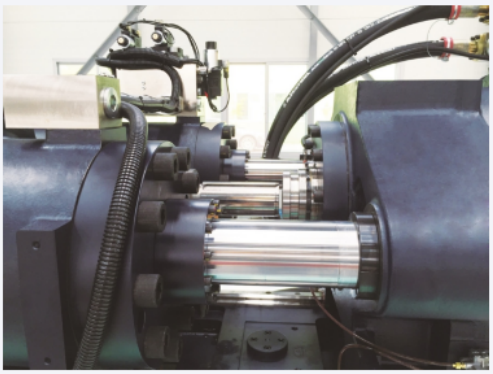
Woojin Plaimm was the first Korean producer to introduce its machine series "developed in Europe" at the K 2016. Korean machine with European technology? Since 2014, the company has combined injection moulding technology from the industrial site Korea with European machine and mould concepts at its research and development centre in Leobersdorf (Lower Austria). Since 2016, the Leobersdorf location has also been a service and sales centre for Europe. This is based on the increasingly merging requirements among the global OEMs.

The fully hydraulic dual-platen machine series DL-A5 by Woojin Plaimm stands out with its energy-efficient concept: The DL-A5 650 has a dry cycle time of less than 3 sec.

The highlight is the new, fully hydraulic series DL-A5. This series in space-saving dual-platen technology covers a very broad range of clamping forces at 4,500 to 40,000 kN. The manufacturer deals with many special features of mould technology, automation or the materials used through a very comprehensive option list. Andreas Brettner, sales manager of Woojin Plaimm GmbH: "The DL-A5 series combines know-how from Europe and Asia. They are machines on a European quality level. The DL-A5 series has controls from B&R and servo hydraulics from European suppliers."

The new energy concept "developed in Europe"



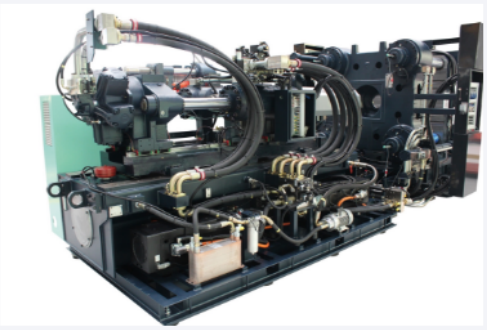
Powerful dual-cylinder injection unit.

Standard DL-A5 machines are equipped with a servo-hydraulic drive unit. This permits low power consumption as this servo-hydraulic output is only used when the machine axis is moved. The DL-A5 650, a hydraulic dual-platen machine with a clamping force of 6,500 kN, has a dry cycle time of less than 3 sec. According to the EUROMAP 60.1 measurement, the energy efficiency coefficient is indicated at 8. There are good reasons for this clearly improved energy efficiency: For example, the designs placed the hydraulic elements for quick injection very close to the hydraulic injection barrel and the servo pumps nearby to the oil storage. This arrangement reduces the energy demand by minimising the power loss. The pump as such is arranged maintenance-friendly, i.e. it is easily accessible for service tasks. The greatest savings through the servo-hydraulic output is achieved by the DL-A5 series in the individual cycle phases of injection moulding.

Powerful dual-cylinder injection unit

Two powerful cylinders with linearly guided supports move the injection unit. They ensure quick, precisely positioned and precise movements. Dual pull cylinders provide straight-on nozzle touch to the mould. There are many volumes available as injection units that go from 1,278 cm³ to 41,548 cm³. The bandwidth of the injection rates goes from 407 cm³/s to 2,700 cm³/s. Optionally, special screw concepts or specially tempered screws for particularly abrasive or corrosive materials can be provided.

Dynamic and efficient clamping concept



Separate filter and cooling circuits for maximum performance.

An efficient dual-platen clamping system ensures powerful and dosed movements of the clamping unit. It permits quick opening and closing at a cycle, based on the mechanically stressable guides of the moving platen. Sensor-powered stroke measuring systems permanently record the current position of movement of the moving platen and the FEM-optimised tiebar design ensures optimal power absorption. The also FEM-optimised design of the platens ensures a maximum on platen parallelism. Generous platen dimensions, large distance between tiebars and an automatic tiebar retraction (option) complete the series concept. The model range comprises the clamping force sizes 4,500 kN, 5,500 kN, 6,500 kN and 8,500 kN in the middle clamping force range. In the upper league of the clamping forces, there are finely graduated models with 10,500 kN, 13,000 kN, 17,000 kN, 18,000 kN, 20,000 kN, 23,000 kN, 25,000 kN and 27,000 kN clamping force. The two top models form a DL-A5 with 33,000 kN and a DL-A5 with 40,000 kN clamping force. Users are thus able to choose between 14 finely graduated models in space-saving dual-platen technology for any production task.

Automatic tiebar retraction system for special moulds

The DL-A5 series optionally has an automatic tiebar retraction device for special mould concepts. This way, oversized or very high moulds can be installed. The automatic tiebar retraction system with FEM-optimised tiebars is guided stably and precisely through an integrated frame.

User-friendly control concept

The current models of the DL-A5 series are delivered with the tried-and-tested controller PP580. All data are presented on the 15"-TFT-touch screen well-structured and intuitively comprehensible. The applications include alarm functions, tools for quality and production management. Mould data and parameters can be stored on internal memory up to 1000 files and external with USB stick. The PP580 controller has integrated control options for automation, peripherals and moulds. An integrated energy monitor is offered optionally. At the moment, Woojin Plaimm is presenting a new web-based controller in Korea, which will be available in Europe as of autumn 2017.

Tags: #Injection molding machine, #Woojin Plaimm, #Clamping unit, #Hydraulic IMM, #Injection unit