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New WITTMANN temperature controller: the ultimate power package

For efficiency in operation, injection molding production with large and heavy molds requires high heating capacity on the one hand, and correspondingly high flow rates in the cooling channels on the other hand. The new WITTMANN ***TEMPRO plus D L120*** *temperature controller is the perfect solution for such tasks.*

The new TEMPRO plus D L120 from WITTMANN.

First of all, this temperature controller offers a maximum heating capacity of 36 kW, a value which ensures an optimal heating time for the mold from both the technical and the economical point of view. This is of special importance whenever very fast heating is necessary, for example after a mold change.

The heat accumulated in the hot steel of the mold plus the additional heat input from the melt caused by the injection molding process must be extracted again from the mold circuit as fast as possible via the cooling channels. This is the only way to establish a homogeneous heat transfer inside the mold, which benefits the entire process. To create ideal conditions in this respect, the **TEMPRO plus D L120** is optionally equipped with a new frequency-controlled pump. This pump model, known as the ***SpeedDrive*** pump, comes with an output of 4 kW, can handle a maximum flow rate of 300 l/min and generates a maximum pressure of 5 bar. With the

SpeedDrive pump, users are able to set the correct parameters for further process regulation – motor speed, flow rate, pump pressure and differential temperature. An approach which makes a vital contribution to process stability. Automatic adjustment of the parameter settings within a certain tolerance margin also optimizes the uptime of the equipment in production. Using a ***SpeedDrive*** pump can be seen as a synonym for energy-efficient pump operation, since it is generally sufficient to operate the pump under partial load to comply with the selected parameter settings.

The development of the new **TEMPRO plus D L120** was prompted by increasing tendencies on the market towards the necessity for fast heating of large molds, while simultaneously providing the subsequently required high cooling performance. After all, such a solution must also contribute to optimizing the cycle time. Consequently, the cooling function of **TEMPRO plus D L120** has taken the form of an extremely effective direct cooling system for the mold water. In this type of cooling system, the use of conventional magnet cooling valves would involve certain risks, since the timed cooling sequence would inevitably cause pressure surges as well as fluctuations in the temperature and system pressure, which could even cause cavitation of the pump. To eliminate such failures once and for all, **TEMPRO plus D L120** has been fitted with a ¾-inch proportional cooling valve with a flow rate coefficient of 100 l/min. This valve operates with a step motor which continuously opens or closes the valve sequentially to maintain constant temperature control and exclude all possible malfunctions. Finally, this valve has proved to be completely maintenance-free in practice, which must be attributed to its special design.

The following is an example for the phenomenal cooling performance of **TEMPRO plus D L120**: a differential temperature of 60 °C between mold water and cooling water is the result of an extremely high cooling performance of 175 kW!

As an option, a stainless steel vortex flow measurement device is available for the temperature controller, with a measurement range from 20 to 400 l/min to cover all conceivable applications.

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.
WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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