

Less is more: Improve energy efficiency and cut CO₂ emissions with solutions from KraussMaffei

- BluePower servo drive controls the pumps according to the optimal requirement/energy consumption
- WeeklyTimer eliminates machine waiting times, thereby reducing energy costs
- EcoPac insulating strips mean 40 percent less energy consumption during injection molding
- Maximum energy efficiency at the press of a button using the EcoButton
- Digital solutions conserve resources intelligently

(Munich, June 21, 2022) Electricity is expensive, polymers are scarce, and carbon dioxide emissions are too high. In every respect, conserving resources makes sense. For conservation of resources in injection molding to work for the long term, a well-coordinated package of measures is needed. KraussMaffei has many relevant solutions in the portfolio it offers to customers, and will be presenting them at K 2022, being held in Düsseldorf from October 19 – 26 (Hall 15, Booth C15/C24-D24).

Plastics processors are currently under pressure from many sides.

Increased costs can often not be passed on in the part price, regulations and taxes are multiplying, and negative media coverage even makes it hard to find specialized employees. On the other hand, never have there been as many incentives for those who want to manage their companies in a sustainable manner.

KraussMaffei has the solutions for this in the areas of process management, drive technology, temperature management as well as data and services. All

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of these can also be used for existing equipment and some can be used for machines from other manufacturers. For example, you can equip the injection molding machine with a BluePower servo drive and Weekly Timer to consume energy only when and in the amount it is absolutely necessary. You can avoid scrap using the familiar APC plus (Adaptive Process Control) machine function, which controls the component weight for each cycle individually. dataXplorer gives you insight into the depths of the process to improve the entire production process. Finally, smartAssist and socialProduction give you the opportunity to respond to problems in real time. KraussMaffei also provides comprehensive advice to customers with regard to investments that help to increase energy efficiency and enjoy government subsidies in Germany.

BluePower servo drive – Only as much power as you actually need

The KraussMaffei BluePower servo drive controls the pumps according to the optimal requirement/energy consumption. The example calculation based on a GX 1300 injection molding machine (clamping force 13,000 kN) makes the savings clear. If we assume 6,000 production hours, a shot weight of 1,155 grams and a cycle time of 60.3 seconds, the BluePower servo drive saves up to 75,000 kWh of electricity a year. At the current energy price of 0.27 €/kWh, that equals EUR 20.250. The CO₂ footprint is also slashed. The BluePower servo drive means up to 30 fewer tons of emissions are released into the atmosphere.

Weekly Timer – No machine downtimes and lower energy costs

If you are familiar with the KraussMaffei MC6 machine control system, you know the Weekly Timer, which is built into this system. The Weekly Timer can be retrofitted for older models. The Weekly Timer knows exactly when the oil preheating, the barrel heating and the mold heating have to be started so that everything is ready at the start of production. This can be configured separately for each day of the week. Does the temperature fluctuate due to weather conditions or a newly installed plasticizing unit? No problem—the Weekly Timer takes these into account and compensates for them. This eliminates machine waiting times.

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EcoPac insulating strips – 40 percent less energy consumption during injection molding

It gets hot in the screw barrel—and as little of that heat as possible is to reach the outside. This is ensured by the EcoPac insulating sleeves that can be wrapped around the cylinder and are available for all injection unit sizes. They stabilize the temperature profile and increase process stability. The heating time is reduced by up to 30 percent. The savings for energy consumption are particularly lucrative, with up to 40 percent being possible. As a result, the investment for the EcoPac insulation pays for itself quickly. For the example calculation with an MX 1000 injection molding machine (clamping force 10,000 kN) and 6,000 production hours, this cuts the energy consumption by up to 24,000 kWh. If you multiply this by the current electricity price of EUR 0.27 per kilowatt hour, you get a savings of EUR 6,480. Also, up to 9.6 fewer tons of CO₂ are released.

EcoButton – Maximum energy efficiency at the press of a button

Machine operators often lack the time to optimize processes, with the result that manufacturing sometimes consumes more resources than necessary. In these cases, the EcoButton offers easy support, ensuring that the process runs with optimum energy efficiency. Plasticizing time or speed, clamping force, injection pressure limit or accumulator pressure. For each of these, the system determines the optimum energy values, which in fully automatic operation then take effect within a few reference cycles. Of course, this also means that the costs for energy consumption are reduced to the absolute minimum.

Conserve resources thanks to digital solutions

The many digital solutions from KraussMaffei make an active contribution to conserving resources. dataXplorer can assign the energy consumption to each individual process step and serves as the interface to an energy management system. APC plus compensates for external influences and enables consistently high component quality thanks to intelligent and automatic closed-loop control systems. Another example is smartAssist, the mobile audio and video communication system with augmentation that gives

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the customer's onsite service technicians access to our domain expertise. The intuitive app can also be used with smart glasses to carry out remotely guided maintenance. Using socialProduction, the production process of the injection molding machines is continuously monitored by a patented, self-learning process. Relevant anomalies and trends in the process are identified at an early stage based on all detected machine data and communicated proactively by means of user notifications in a shared chat room. The process parameters are evaluated completely autonomously and without prior configuration by the process owner.

KraussMaffei at K 2022

Hall 15, Booth C15/C24-D24

KM_2022_0621_K-Previews_BluePower.jpg

Save electricity and money with the BluePower servo drive

KM_2022_0621_K-Previews_Weekly Timer.jpg

With Weekly Timer, the machine operators can precisely set the desired start of production of the injection molding machine

KM_2022_0621_K-Previews_EcoPac.jpg

Insulating to provide value: The Eco-Pac insulating strips make it easy to reduce energy consumption by up to 40 percent

KM_2022_0621_K-Previews_EcoButton.jpg

Maximum energy efficiency at the press of a button: The EcoButton function ensures optimum energy setting within a few cycles

Photos: KraussMaffei

Enclosure: Pictures and more information can be found at

www.kraussmaffei.com

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KraussMaffei – Pioneering Plastics

KraussMaffei is among the world's leading manufacturers of machinery and systems for the production and processing of plastics and rubber. Our brand stands for cutting-edge technologies – for more than 180 years. Our range of services covers all areas of injection molding machinery, extrusion technology and reaction process machinery. This gives KraussMaffei a unique selling point in the industry. With the high innovative power of our standardized and individual product, process, digital and service solutions, we can guarantee customers sustained additional value over the entire value-adding chain. Our range of products and services allow us to serve customers in many sectors including the automotive, packaging, medical and construction industries, as well as manufacturers of electrical and electronic products and household appliances. KraussMaffei employs around 4.700 people all over the world. With more than 30 subsidiaries and over 10 production plants, as well as about 570 commercial and service partners, we are represented internationally close to our customers. Since its foundation in 1838, the company's headquarters have been in Munich.

In April 2016, the Chinese state-owned company China National Chemical Corp. Ltd. ("ChemChina"), one of the leading chemical companies in China, became the majority shareholder of KraussMaffei Group. At the end of 2018, ChemChina listed the KraussMaffei Group as KraussMaffei Company Ltd. in Shanghai. The listing opened up access to the Chinese capital market and local investors.

For more information: www.kraussmaffei.com

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