

Extrusion







Customized Solutions

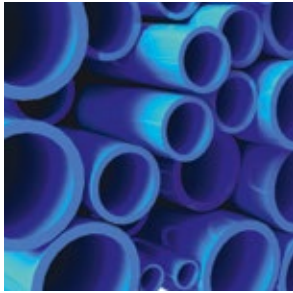
As a thermoplastics manufacturer or processor, it's essential for you to fight off global competition. Our employees know that your market success greatly depends on the quality and productivity that your machines and systems provide. That's why we analyze your tasks very closely to provide optimum solutions. In doing so, we don't shy away from special applications.

We select the most suitable methods and processes for your application. You can test your innovative plastics and try out innovative ideas under practice-based conditions together with us in our test and development centers. Optimally designed on a rheological and materials engineering level, our machines and systems ensure your production is safe, reliable, and cost-effective.

About us

 **MAAG Group is a global and broadly diversified solutions provider with integrated and customizable pump, filtration, pelletizing, pulverizing, and recycling systems in process technology for the polymer, chemical, petrochemical, pharmaceutical and food processing industries. MAAG Group offers customers maximum added value—in understanding the processes involved, with international engineering teams for high-performance solutions, and with a global service network.** 

Thermoplastics



Extrusion processes are used to convert thermoplastics into pipes, hoses, blown films, cable sheaths, aerated plastics, and profiles. Our gear pumps optimize the extrusion process since they convey the product stream precisely and apply the die pressure efficiently, thus relieving the extruder of pressure build-up. This increases the production plant's output, improves the end product quality thanks to the reduced temperature input and prolongs the extruder's service life. The damping effect of the gear pumps also mitigates or eliminates pulsations and pressure peaks in the extruder. Material savings can be achieved by minimizing the tolerance range. Our filtration systems ensure high manufacturing quality and superior visual appearance characteristics in end products. MAAG screen changers are optimally matched to our gear pumps. They filter out contaminants from molten plastic melts and help you to meet your customers' and end consumers' high quality standards.

Compounding & Masterbatch



Our melt pumps provide the necessary pressure to manufacture micro-pellets. Screen changers are used to protect the die plates, reliably filtering contaminants from the melt. Extrusion pumps build up the pressure for extruding high-content compounds and masterbatches such as polyolefins with talc, CaCO_3 or soot without forcing the temperature up unnecessarily high. Our screen changers guarantee that agglomerates are retained and do not pass through to the following process.

Elastomers



Gear pumps are used to convey highly viscous rubber during elastomer plastic production. Used as transfer, booster or metering pumps, our gear pumps can easily achieve high pressure levels and throughputs at low shear rates thanks to the re-engineered toothing with low crushing. This optimized performance allows us to bring elastomer extrusion to a new level in terms of cost efficiency and process engineering. Efficient ejection, minimum tolerance deviations and rapidly achieved process stability ensure optimum product quality in manufacturing tires, elastomer profiles, and other silicon parts.

Recycling

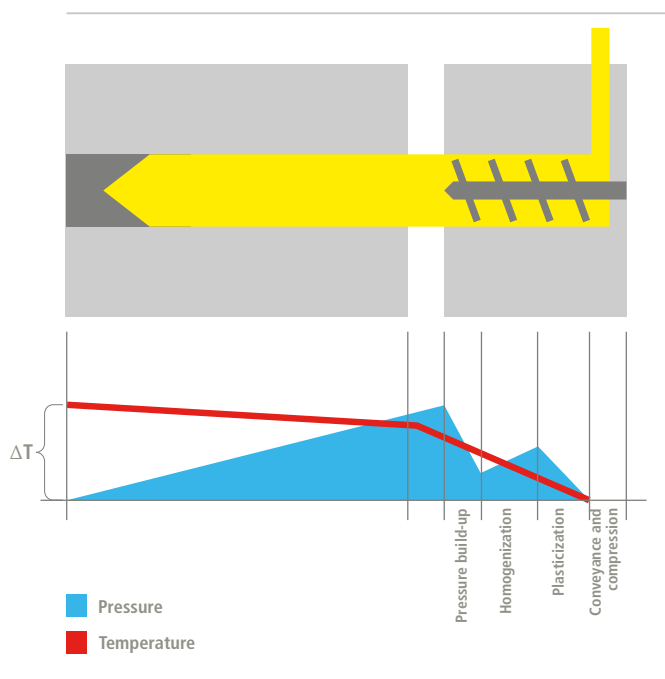


The continuous, self-cleaning ETTLINGER melt filters provide the optimum technical solution for processing an extensive variety of recycling materials. They comprise a patented system which is already demonstrating its operational and performance capability in many industrial uses worldwide. The defining characteristic of ETTLINGER melt filters lies in their automatic, continuous stripping of contaminants. This guarantees pressure-resistant processes, long, uninterrupted production cycles, and efficient, cost-effective filtration for all polymers, even if there is a high proportion of contaminants.

Process Description

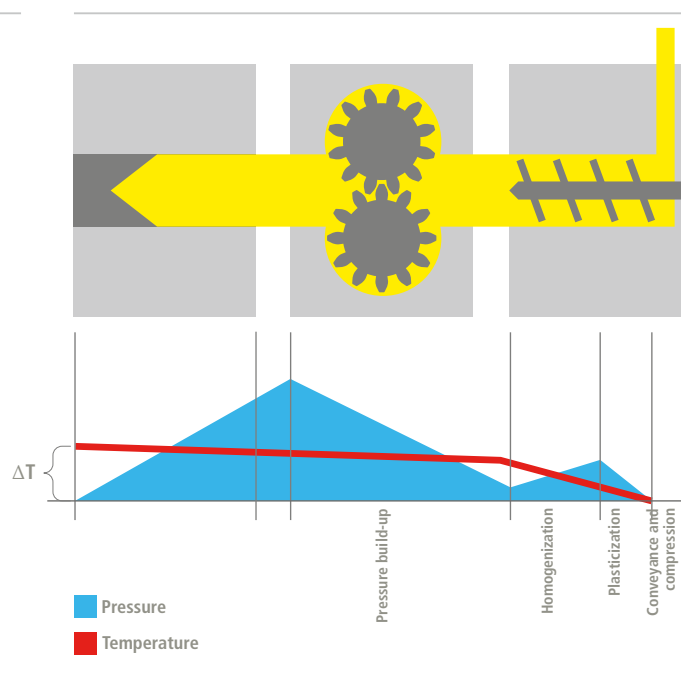
Our gear pumps optimize the thermoplastics extrusion process since they convey the required product stream precisely and apply the die pressure efficiently, thus relieving the extruder of pressure build-up. This increases the production plant's output, improves the end product quality thanks to reduced melt temperatures, and prolongs the extruder's service life. The damping effect of the gear pumps also mitigates or eliminates pulsations and pressure spikes in the extruder. With the x⁶ class pump line, we have again made significant improvement in relation to the specified advantages compared to previous technological standards.

Without a gear pump



Without a gear pump, peak pressure occurs at the end of the extruder. It depends on the melt viscosity, throughput, and the melt pipe geometry after the extruder. The melt temperature is strongly influenced by the intensity of the required pressure build-up. If a screen changer is used in the line, the pressure continually intensifies as contamination increases, thus leading to a decrease in the throughput and causing long-term variations in the extrudate.

With a gear pump

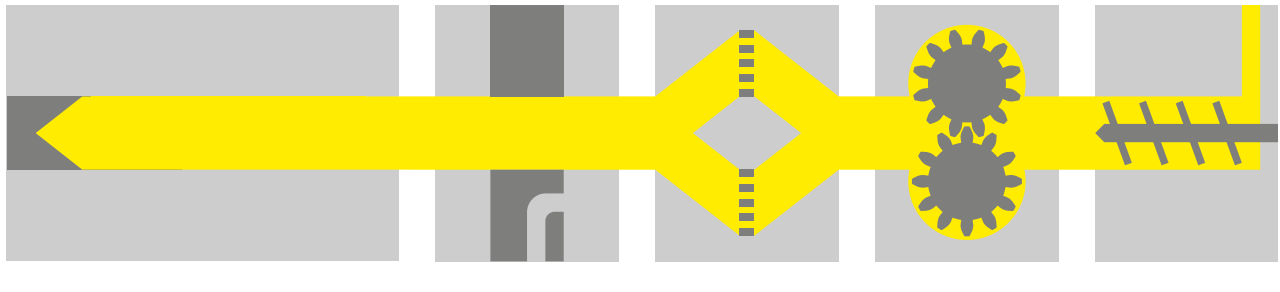


If the much more efficient gear pump is used to build up pressure, the extruder discharge pressure achieves its target level and can be freely adjusted within a wide range. The melt temperature thus becomes a definable parameter to a certain extent.

System Components

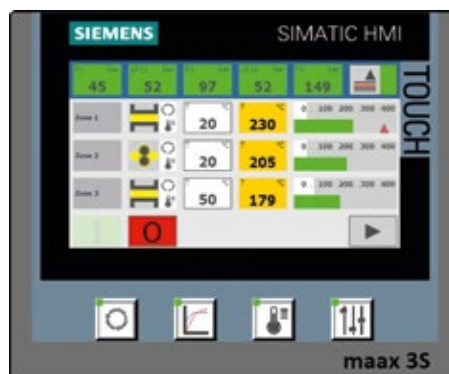
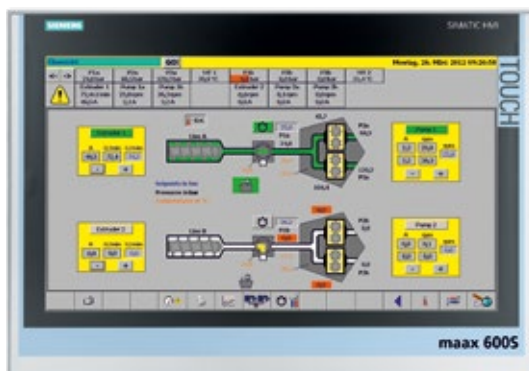
A gear pump offers further advantages in that in-house regrind can be easily further processed and the pump distributes the melt extremely evenly as it conveys the melt through the die. This guarantees a consistently high quality in the end product. High standards are applied to products with respect to processing quality and visual appearance characteristics. An important aspect in plastics production and processing is therefore filtration, when a filter separates contaminants from the molten plastic melt. We supply the devices required for filtration for an extensive variety of plastics manufacturing and machining methods. Continuous development processes bring improvements to these filter devices, helping to ensure customers and end consumers are satisfied and their quality standards are met.

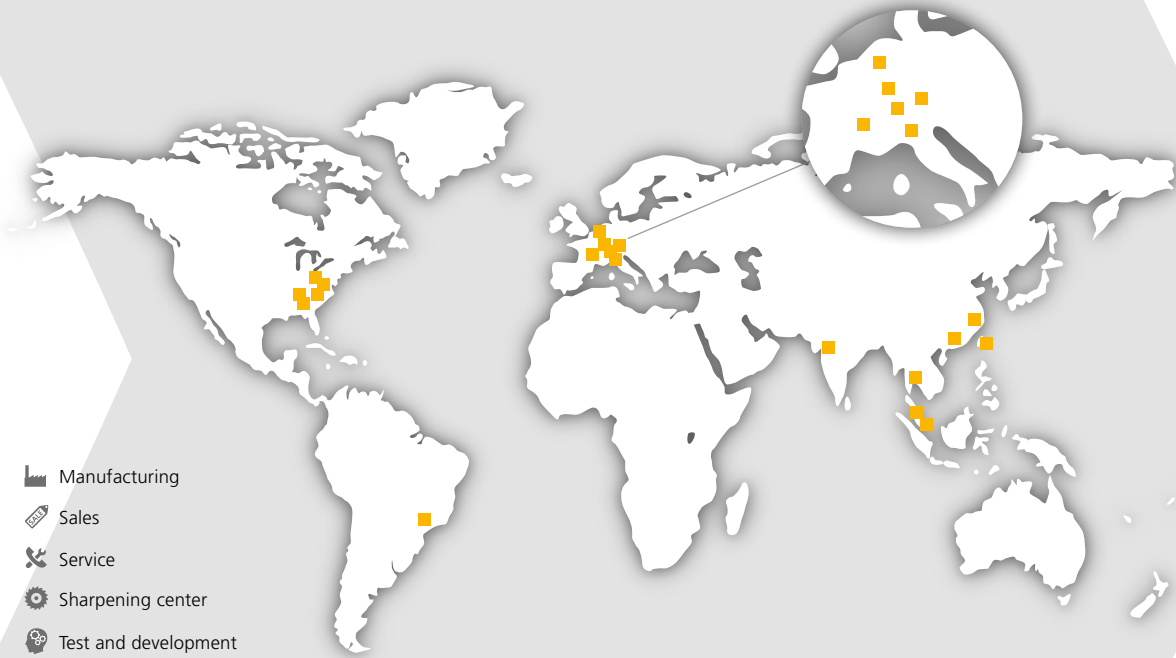
Modular system components for the further, individually adjusted extrusion process








Control Systems

Our maax® series automation systems are particularly suitable for retrofits and complete replacements to extrusion systems combined with the fitting of a melt pump or a screen changer. Their central operator control, optimum control circuits, and continuous monitoring combined with new plant components provide a significant quality improvement to the end product.





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-  Test and development

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