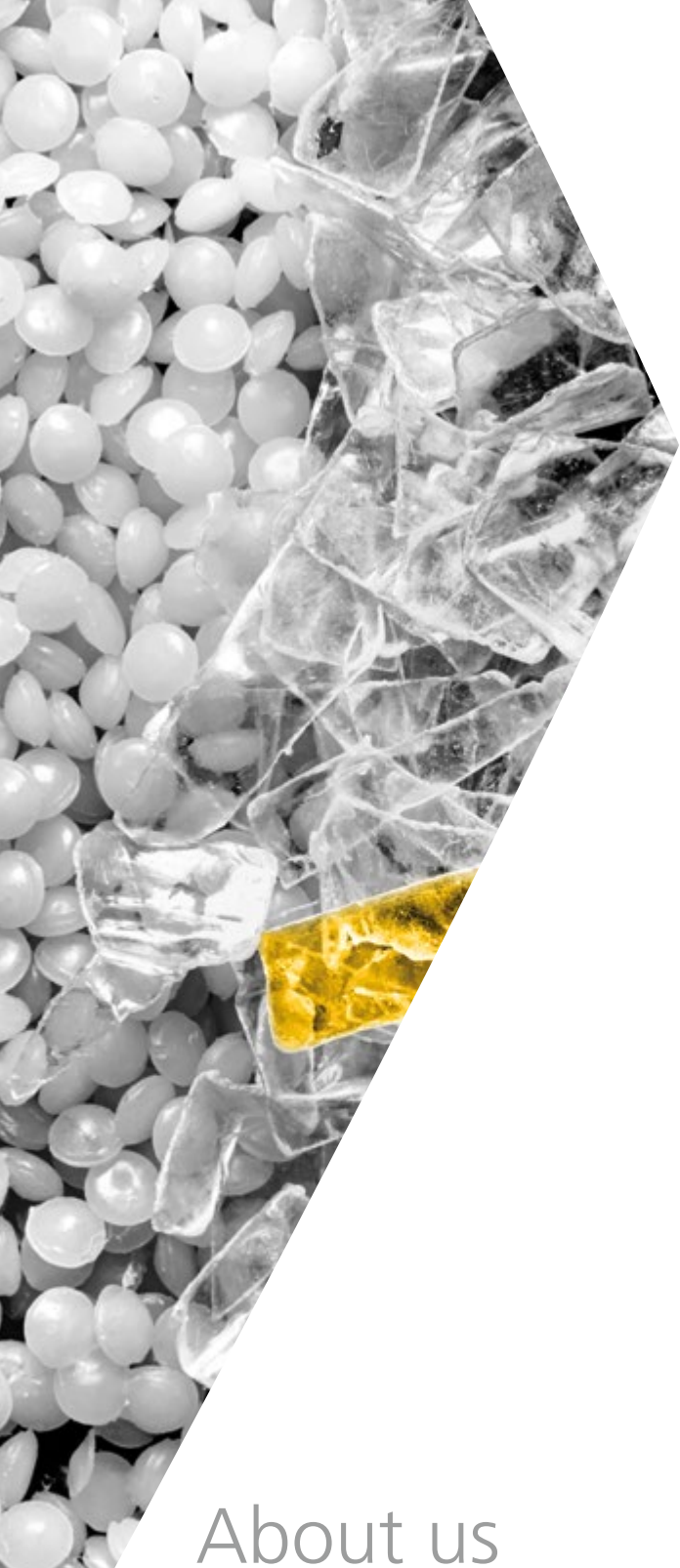


Next level solutions for recycling applications



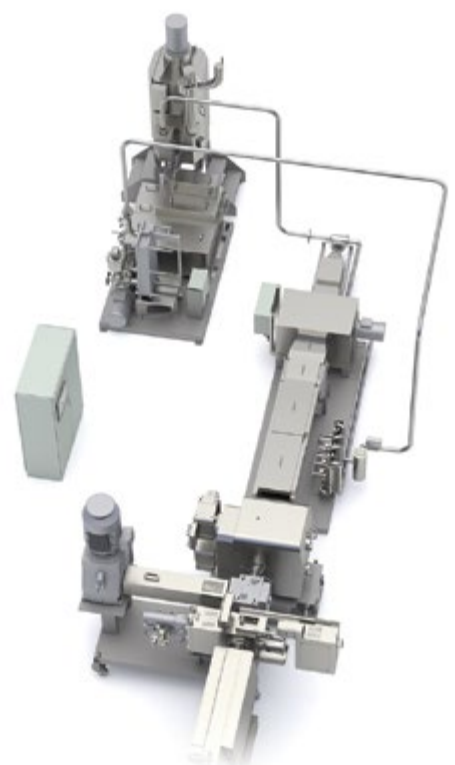
Recycling Systems

MAAG Group systems play a key role in enabling a more circular economy for plastics. Our equipment and solutions cover the entire plastics value chain and help to introduce used plastics back into high quality products.

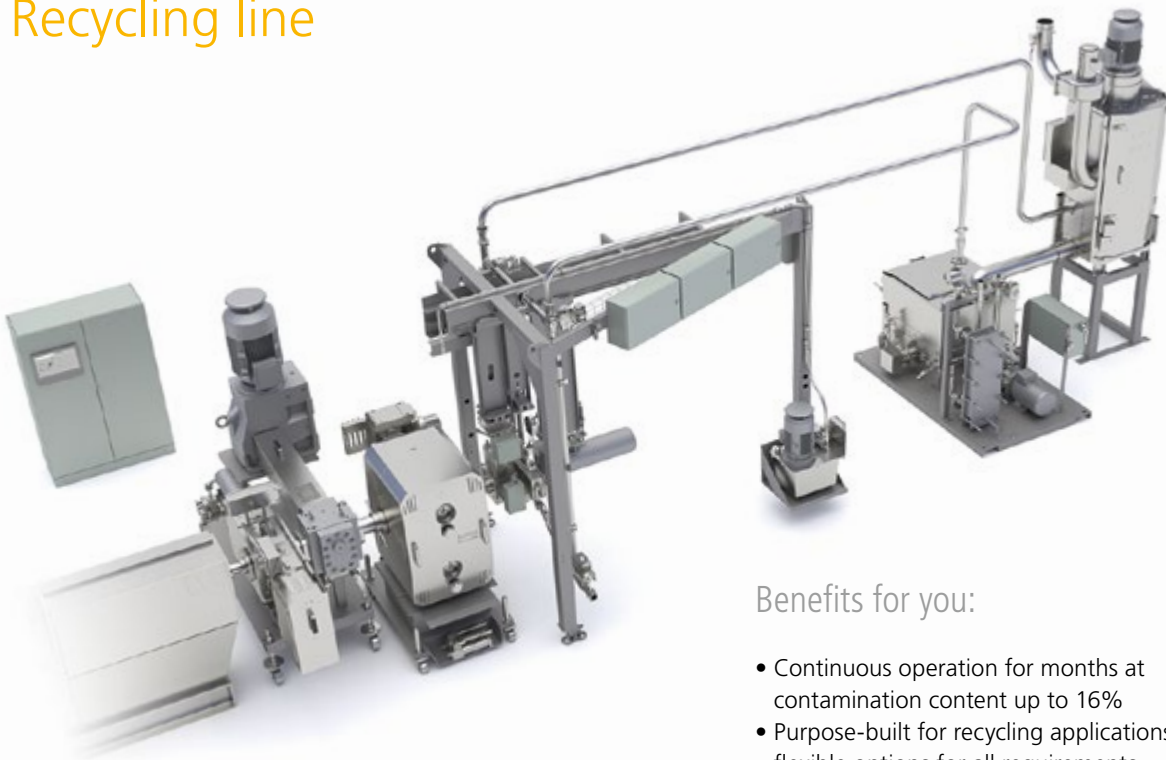
As a specialist for polymer filtration and recycling systems, we have developed custom melt filtration and pelletizing systems that meet the strict requirements of our customers and the recycling industry. Our systems provide solutions to process the most demanding recycling materials streams and turn them into valuable resources. Our goal is to preserve material properties and produce pellets that are equal in quality to virgin materials when processing post-consumer and post-industrial plastic materials.

About us

» The MAAG Group is a broadly diversified global solutions provider with integrated and customizable systems in process technology for the polymer, chemical, petrochemical, pharmaceutical and food industries. Its Pump & Filtration Systems, Pelletizing & Pulverizing Systems, Recycling Systems and Digitalization divisions consolidate the many years of experience and in-depth know-how of the AMN, AUTOMATIK, ETTLINGER, GALA, MAAG, REDUCTION, SCHEER and XANTEC product brands. The MAAG Group currently employs over 1,250 people at production sites in Switzerland, Germany, France, Italy, the USA, and China. Additional sales and service centers in Malaysia, India, Thailand and Brazil ensure close attention to customers' needs. «



Recycling line



Benefits for you:

- Continuous operation for months at contamination content up to 16%
- Purpose-built for recycling applications and flexible options for all requirements.
- Melt pump for precise and stable volumetric flow, reducing extruder pressure demands for power efficiency and extended life
- High quality pellets with low residual moisture level
- Fully automated operation requiring minimal operator intervention
- Easy retrofit into existing recycling lines

Applications

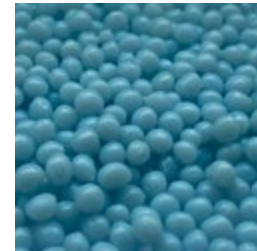
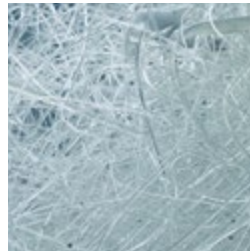
Raw Material

Input

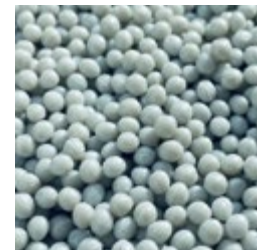
Waste

Output

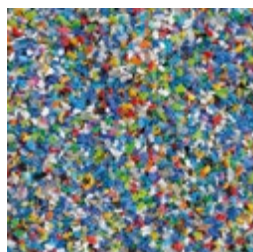
PET



LDPE

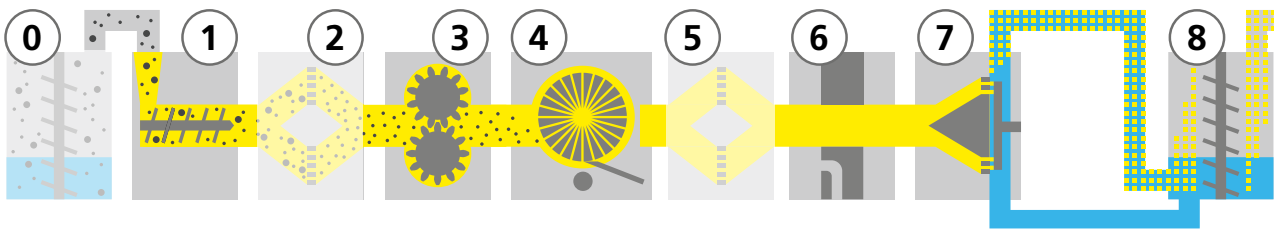


HDPE

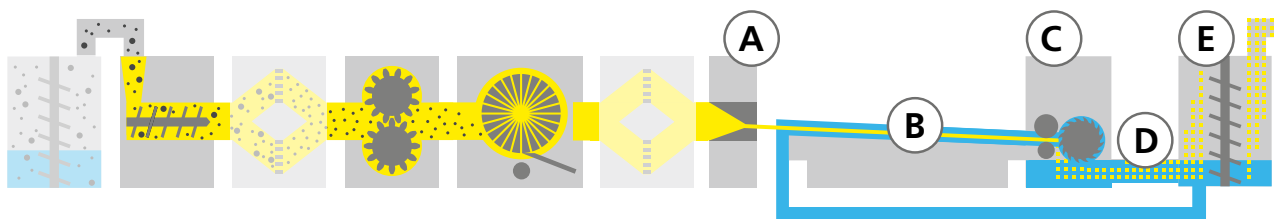


Process description

The MAAG Group is the leading producer of Pumps, Filtration- and Pelletizing systems. We have now brought all these individual items together into one recycling system. We provide with Recycling Systems a complete line for continuous filtration of feedstock with a wide range of contamination. From conveying, temperature control, filtering, pelletizing, and drying, the components work seamlessly together to make your process the most efficient possible. The results are impressive – whether spherical, cylindrical or micro pellets..



Some recycling flakes need to be washed and dried in a centrifugal dryer **(0)** before getting into the extruder. To achieve fast start-up and shutdown of the extruder **(1)** and minimize the load, a melt pump **(3)** generates the melt pressure needed downstream. For some applications, the use of a coarse-mesh pre-filter **(2)** is recommended. Impurities in the plastic melt are filtered by our continuous high performance melt filter **(4)** to achieve top grade quality. In the underwater pelletizing process, the melt is guided via a hydraulically operated start-up valve **(6)**. For specific applications which require even finer filtration < 40 micron an additional screen changer **(5)** can be used. In the underwater pelletizing process, the melt is guided via a hydraulically operated start-up valve to the die plate **(7)** where the melt is forced through die holes into the cutting chamber and cut into spherical pellets. Carried by the process water, the pellets get into the centrifugal dryer **(8)** where the moisture is removed from the pellets. The filtered and temperature regulated process water is returned into the cutting chamber.



For cylindrical pellets the process is the same as the underwater process up to the fine filtration process. After fine filtration, strands are formed then discharged from a die head **(A)**. The strands pass to the strand guide section **(B)** and are conveyed immersed in cooling water to the strand pelletizer. At the pelletizer **(C)** the strands are grasped by the intake roller and fed to the cutting chamber where they are cut into pellets. The pellet and water slurry moves through an after-cooling line **(D)** where they are cooled further. In the centrifugal dryer **(E)** the water is removed from the pellets and the pellets are dried.

Click the
interactive
buttons

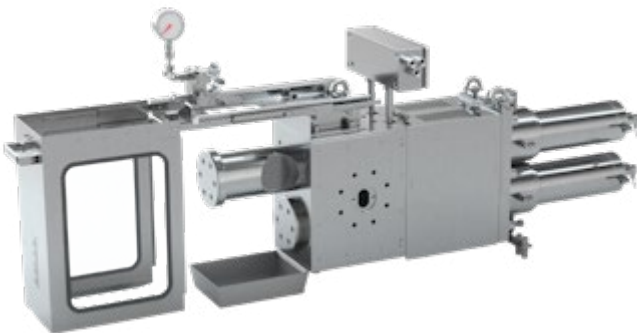


» Coupled with our built-in auger feed, which provides a steady consistent feed, with improved product moisture GALA centrifugal dryers are widely used by recyclers worldwide, and capable of drying a variety of recycled flake materials with moisture levels suitable for extrusion. GALA dryers are the preferred choice for your recycling needs.



» MAAG's gear pumps provide a higher volume between the teeth as compared to other models in the market. Our Duo Drive prevents the gears from touching each other. Both features are offering advanced acceptance of high filler content and impurities as they apply in recycling.

» ETLINGERS high performance melt filters are the perfect technology for processing a variety of recycled materials. The ERF and ECO series are capable of processing nearly any polymer found in recycling plants, sheet and film manufacturing, tape and fiber production, or the compounding industry.

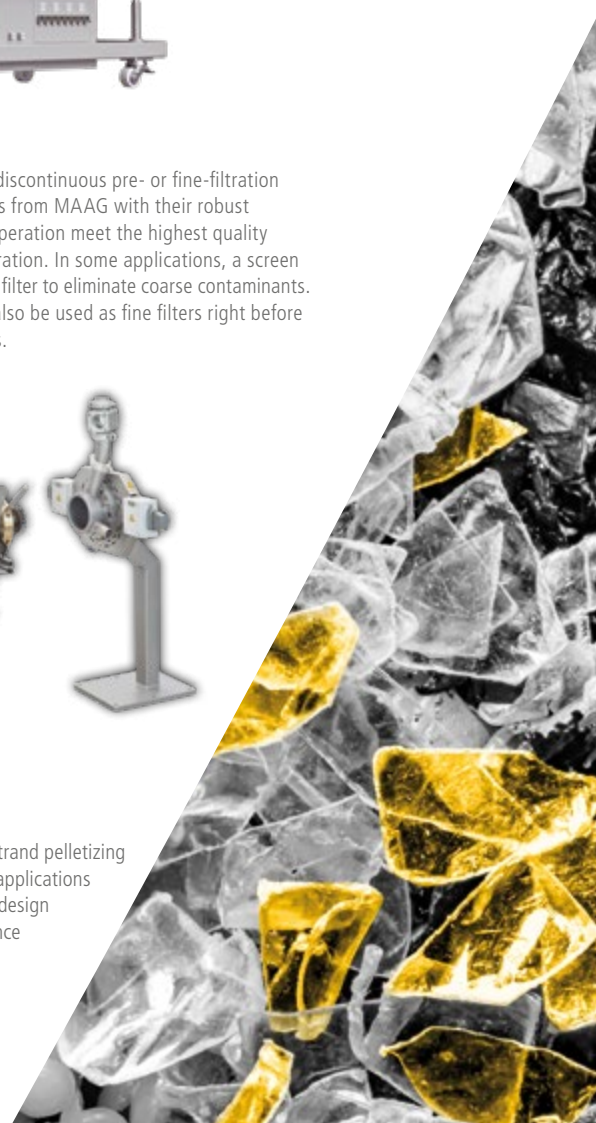


» Continuous or discontinuous pre- or fine-filtration screen changers from MAAG with their robust and leak-free operation meet the highest quality standards for melt filtration. In some applications, a screen changer is used as pre filter to eliminate coarse contaminants. Screen changers can also be used as fine filters right before the pelletizing process.

» In GALA's PEARLO® underwater pelletizer, the tangential design of the cutting chamber generates optimized flow, preventing the pellets from sticking together. This feature enables the pelletizer to quickly produce acceptable product with minimal waste. Proprietary knife geometry further improves pellet quality and consistency.



» AUTOMATIK's P-USG underwater strand pelletizing systems are designed for recycling applications up to 3.000 kg/h. The simplicity of design means simplified operation and maintenance while achieving high pellet quality and consistency.



We are where our customers are



Find the nearest MAAG Location



maag.com/locations