

# AFTER SALES SERVICE for compounding



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# Strand forming

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## Die head

The die heads for pelletizing units are used in strand pelletizing systems for extrusion of strand profiles. Our (SG-C series) die heads have been specifically developed for applications in masterbatch, compounding and recycling processes. They are used downstream of single and dual screw extruders.

### Your Benefits:

- Absolute uniform and homogeneous melt distribution
- No separation or demixing of the compounds
- Short dwell-time of the melt
- Minimum pressure drop
- Short flow path of the polymer



## Die plates

Choosing the right die plate for your product is the first step to achieve outstanding throughput levels and pellet quality. Many years of experience in process engineering make us the perfect partner for optimized die plates, no matter if you run common, specialty, experimental or novelty products.

### Your Benefits:

- Wear resistant die plates for all applications and machine types
- Over 50 years of experience in pelletizing process engineering
- Consistent stability of throughput and process quality



## Hot air knife

The hot air knife (HAK) is an optional or retrofitting device mounted to the die head of dry cut strand pelletizing systems which efficiently removes melt residues, out gassing remains, and die drools (such as build up of glass fibers) from both the die holes in the die plate as well as from the extruded strands themselves.

### Your Benefits:

- Efficient reduction of deposits and fiber residues
- Increased availability of your production line
- Reduction in overall production costs
- Improved product quality
- Available for die head operating widths from 200 mm to 900 mm



# Strand cooling & water treatment

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## Cooling trough

The cooling trough (KW) assures uniform tempering of strands during strand pelletizing in dry cut strand pelletizing systems. Variable modular length and width as well as many additional options allow adapting the cooling trough KW to almost every requirement.

### Your Benefits:

- Uniform water flow on the entire width of the cooling trough
- Enhanced process stability
- Level setting by adjustable overflow weir at the cooling trough exit
- Supporting rollers swiveling and slide able
- Trough lengths available in increments of 1 meter. The base frame can be moved on rollers for precise alignment.



## Belt conveyor system

The belt conveyor pelletizing system (EBG) is specifically designed for the compounding of water-sensitive or highly filled (> 60 %) or fragile products. Variable system configurations permit a perfect adaptation to the product to be processed. Using the belt conveyor, even elastic and very flexible polymers may be handled easily and efficiently.

### Your Benefits:

- Wide processing window
- Very slow drawing speed possible, starting at 8 m /min
- Strand cooling by air, water, or both
- Due to linear pelletizer feed, no strand breaks
- Processing belt adaptable to different pelletizing heights
- Retro-fitting to existing pelletizing lines possible



## Process water treatment system

The process water treatment unit (PWA) serves for filtering, tempering, and circulating the process water in compound and masterbatch production and can be integrated into the base frame of the cooling trough or positioned externally. Using a heat exchanger, the PWA separates the contaminated process water circuit from the primary cooling circuit from the central water supply.

### Your Benefits:

- Targeted process water cooling via plate heat exchanger
- High process reliability
- Low energy consumption
- Low operation and consumption costs
- Separation of process water from the central cooling water supply

# Drying - Cutting - Screening

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## Strand suction unit

The (SE) air knife guarantees efficient strand drying during pelletizing in both compound and masterbatch applications. Filled and reinforced materials require effective strand drying to minimize the residual moisture of the pellets, reduce dust and avoid premature wear of the cutting tools.

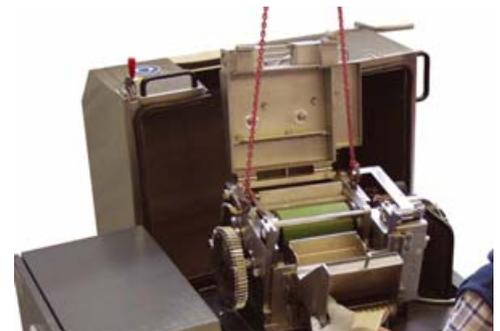


## Your Benefits:

- High suction power for low residual moisture values
  - Dehumidification of suction air and water recirculation
  - Targeted water return via pump
  - Low sound emission < 80dB(A)
  - Short delivery times
  - Easy start- up («plug & run«)
- 

## Quick exchange spare cutter head

The procedure for exchanging the cutting head is extremely simple. Once production has been halted, the PRIMOPlus cutting head is first loosened using standard tools. The cutting head is hoisted out, and the new cutting head is lowered into position using centering pins. The new cutter head is fastened and the production can be resumed.



## Your Benefits:

- Rapid and easy exchange of cutter head
  - Improved machine availability
  - Maximum flexibility for fast and reliable product changeover
  - Simplified cleaning and maintenance
  - Short stand still time for cutter head exchange
- 

## Classifier

The classifier is used for separating spears, spelts, chains, oversizes, and multiples from plastic pellets. Classifiers of the SRK-I-C and SRK-I-V type have been designed for the separation of oversized particles both in virgin polymer and compounding applications.

## Your Benefits:

- Flat throwing angle
- Very low vertical acceleration
- No stand-up of over lengths on screening surface
- Easy cleaning
- High operating comfort
- Small inclination angle and favorable outlet height
- Robust design



# Wear & Tear Parts

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## Filter elements

The filter technology team at MAAG is committed to continuously improving and expanding the range of our large area filtration systems and candle based filtration systems. MAAG filter systems are the best choice for any application that requires the highest filtering quality and the shortest possible residence times. Our engineers have developed methods to model your conditions, resulting in the optimum filter system design.

### Your Benefits:

- Minimized residence time
- Reliable operation
- Leak-free mode of operation
- Simple and safe handling



## Cutting rotor

Different characteristics, like rotor material, number of teeth and more than 15 tooth profiles, can be optimized for every product in strand pelletizing to achieve best results in quality, throughput and lifetime.

### Your Benefits:

- Longer lifetime
- Special tooth profile and number of teeth for all applications
- Consistent pellet quality
- Lower costs, due to specially selection for your application



## Feed rolls

Whether the material to process is very soft, hard, abrasive or extremely hot, with the correct feed roll, suited for the process products, you can optimize the strand pelletizing process.

### Your Benefits:

- Optimized strand feeding performance
- High lifetime of feed rolls
- Uniform pellets
- Lower costs

# Wear & Tear Parts

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## Wear protection

Developed specially for processing of filled polymers, compounds and masterbatches. In compounding industry, the lifetime of components with contact to the product can be quite short. Abrasive polymer fillers, like glass fibers and minerals, can wear down parts, like strand inlets or pellet outlets, very fast.

MAAG currently offers various wear protection types to improve the availability of pelletizing machinery and associated components.



## Your Benefits:

- Higher lifetime for components
  - Higher machine availability
  - Less maintenances
- 

## Bed knife with tungsten carbide inserts

Strong wear protection for PRIMO, PRIMOPlus & M-ASG machines. Normal wear can be reduced by using wear protection coatings. However, for highly abrasive products we have developed tungsten carbide inserts that protect the knife body from any wear.



## Your Benefits:

- Strong wear protection of the bed knife body
  - Easy exchange of the tungsten carbide inserts
  - Reduction of maintenance expenses
  - Inserts are more durable than most wear protection coatings
- 

## Cutting blades, bed knives

The cutting blades for any application. The lifetime of the individual edges of a cutting blade affect three important factors: pellet quality, system availability and production costs.

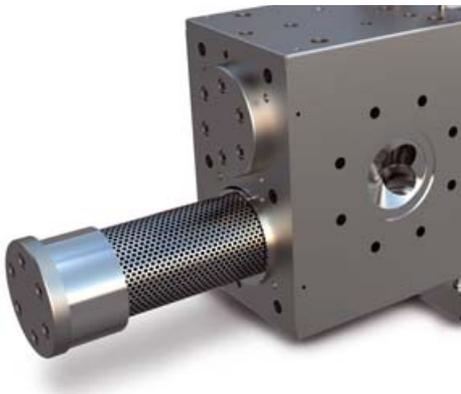
## Your Benefits:

- High lifetime of cutting blades
- Consistent pellet quality
- Less costs, due to specially selected for your application



# Retrofit Kits

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## Retrofit-piston for existing CSC screen changers

The arched breaker plate offers up to 2,5 times more active filtration surface than existing pistons with round filter cavities. For retrofitting the screen changer remains in the extrusion line and only the pistons need to be replaced. Usually this is done by MAAG service technicians in between one day. The filter handling and the venting procedure will remain the same as before.

### Your Benefits:

- Maximization of filtration surface
  - Extended screen dwell time
  - Higher throughput
  - Higher filter fineness
  - Lower melt pressure
- 



## Conversion kit to micro pellets

Micro pellets (with dimension less than 1.0 mm) are increasingly gaining in market significance because of the many advantages they offer over powder. A major advantage over powder is the elimination of the two-step compounding and grinding operations, replacing it with the single-step compounding micropelletizing operation. Most importantly, micro-pellets offer a dust-free alternative to powder.

### Your Benefits:

- Sophisticated parts specially developed for producing micro pellets
  - Process engineering and technical consultation
  - Production of sample micro pellets in our lab
- 



## Soft polymer kit

Achieving a good pellet quality when cutting soft and rubberlike polymers requires the pelletizers to match the special demands of those products. We have designed a range of parts to meet these demands:

- Special tooth profile (SB15) designed for cutting soft polymers.
- Grooved cutting blade design helps to guide the strands to the cutting rotor and prevents them from slipping off.

### Your Benefits:

- Smooth and clean cutting of soft polymers
- Reliable strand guiding
- An air nozzle at the strand inlet allows easy feeding in of strands
- Easy installation of components

# Overhauling & Repair

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## Overhauling cutter head

Higher availability of strand pelletizing systems.  
The cutting system is one of the key components in your process.  
Regular maintenance carried out by MAAG specialists guarantees that it's always in best condition.

### Your Benefits:

- Reduction of maintenance costs
- Complete overhaul at a fixed price



## Pump repair

We repair and overhaul gear pumps from many different sectors, including manufacturing industry, chemicals, extrusion, polymers and compounding. In order to offer you a full service from a single source, we have vacuum pyrolysis ovens for pump cleaning. We even keep many parts in stock locally, to ensure quick repairs.

### Your Benefits:

- Fast, reliable support from experts
- Wide-ranging pump cleaning options
- Longer machine life, safeguarding your capital investment
- Improved operational reliability
- Improved productivity thanks to higher machine availability



## Resharpening- and Repair-service

Sharpening of cutting rotors is the key process in terms of the service life of the rotor. The operation time of a cutting rotor between two sharpening procedures, its overall service life, and the quality of the pellets is heavily dependent on precision sharpening.

### Your Benefits:

- Resharpening with preservation of the tooth profile
- Longer lifetime of cutting tools
- Guarantee of quality with certificate
- Resharpening and repair available at 8 service centers worldwide
- Repair of tungsten carbide rotors by replacing of knives



# General Services & Support

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## Cleaning and grinding service

The die plate is the heart of every underwater pelletizing system and needs to be treated accordingly. Only MAAG, as the original manufacturer, can guarantee the best reprocessing. We know exactly how to clean and grind used die plates in order to get the maximum out of these valuable parts. MAAG offers overhaul of die plates in most of its service centers around the globe.

### Your Benefits:

- Inspection of the die plate by OEM
- Cleaning procedure by OEM to avoid any damages during the cleaning process
- Minimum grinding to maximize the life time of the die plate
- Professional and reliable support



## Laboratory for trials and development

MAAG globally provides the opportunity to develop and test out new techniques and materials. Our modern facilities include laboratories for rheological tests, extrusion lines for underwater and strand pelletizing, pump test benches, drop process units for processing low-viscosity melts and fluids and pulverizing systems.

This is where individual plastics can be tested, innovative ideas tried out under life-like conditions, sample production commissioned or solutions worked out for special requirements.

### Your Benefits:

- Pelletizing trials with your materials
- Optimization of your pelletizing process
- Testing of prototypes
- Practical training of your personnel



## Pelletizing system check

On-Site-inspection of pelletizing equipment by MAAG experts.

The inspection follows a logically structured checklist and therefore allows determining the condition of your machinery fast and uncomplicated. After the inspection you receive a detailed report describing the condition of your machinery and with recommendations on probably necessary preventive measures to maintain high machine availability.

### Your Benefits:

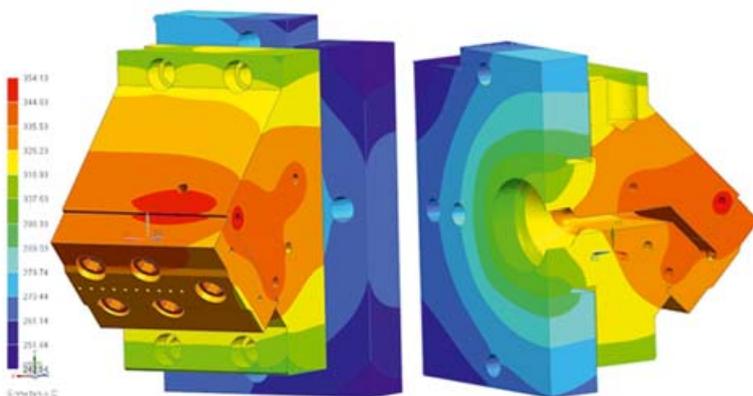
- Prevention of unplanned machine downtime
- Increase of production reliability
- Reduction of maintenance expenses

# Process know how

## **The five market leaders Automatik, Gala, MAAG, Reduction Engineering Scheer, and Ettliger combine their specific process know how under the roof of MAAG.**

Comprehensive process analysis is gaining enormously in importance, especially in view of rising competitive pressures and the demand for greater cost-effectiveness. Only if all the individual components of a system are ideally matched and coordinated waste can be minimized, downtimes reduced, product quality improved and production and energy costs saved. Only if all the subprocesses intermesh can an efficient overall process, with stable production and minimal unscheduled downtimes, can be attained.

It is that masterly overview of all process steps, in particular, which has made MAAG the market leader it is today. Our know-how developed over decades of experience means you can be sure of having an expert partner at your side even when confronted by the toughest of challenges. It is precisely that know-how – and the promise to our customers of fast, expert support and assistance – which differentiates MAAG from other vendors in this industry. Alongside expertise in hardware, a sound understanding of the overall process executed by a plant is vital, and is an increasingly key factor in achieving efficient production.



Over recent decades MAAG has built up a level of knowhow in pelletizing, filtration, pulverizing and pump engineering which is unique worldwide, based on the largest pilot plant installation of its kind. The provision of specialist advice and process support is an integral part of what MAAG offers today, and its wealth of know-how is respected and utilized by many customers all over the world.

Particularly we focus on rapid problem analysis and regular consulting with our customers, which is why we invest in ensuring specialists are on hand to provide local support. MAAG thus combines in-house machinery manufacturing, full aftersales service – including repairs/sharpening and process optimization – with advice on process issues, all from a single source.

Our customer support services are implemented by an international network of agents and our own branch offices, deploying highly trained specialists all around the globe.

MAAG delivers comprehensive service worldwide – and that is what differentiates us from all other vendors in this industry.



-  Manufacturing
-  Sales
-  Service
-  Sharpening center
-  Test and development

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