

www.maag.com

PRODUCTS & SERVICES

Americas Resource Guide



a **DOVER** company

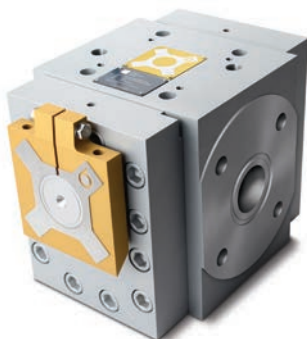


Integrated systems for optimum production results

It is our goal to be the world's leading solution provider for the polymer, chemical, petrochemical, pharmaceutical, and food industries—offering a range of integrated system solutions for pumping and filtration, pelletizing and pulverizing, and recycling. All components, products, and systems of our product brands AUTOMATIK, ETLINGER, GALA, MAAG, REDUCTION, and SCHEER are of the highest quality and have excellent performance values. Within MAAG Group, innovations, cutting-edge technology, and extensive after-sales service form the basis for providing solutions to meet demanding customer requirements in production, processing, and recycling.

NEXT LEVEL SOLUTIONS—this promise summarizes the services of MAAG Group in a nutshell. It signifies the maximum added value we provide for our customers through understanding their goals and processes. It expresses the development of high-quality and high-performance solutions by international and interdisciplinary development teams within MAAG Group. It signifies value for money for sustainable and long-lasting products, equipment, and systems. It means we maintain a global service network to offer our customers the upmost productivity of their machines. It stands for the security to press on with the development of advanced solutions in the sense of a circular economy for plastics. It concerns the future viability of producing and processing modern polymers as innovative materials for a wide range of applications.

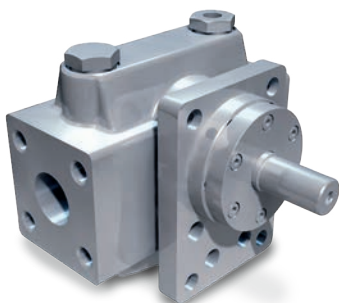
PUMPS



Extrusion Gear Pumps

Our **x⁶** class **extrex[®]** sets a new standard for cost-effective pumping. A new bearing design runs cooler for higher speeds and throughputs. Other features include refined inlet/outlet flow channel geometry and improved cartridge zone heating.

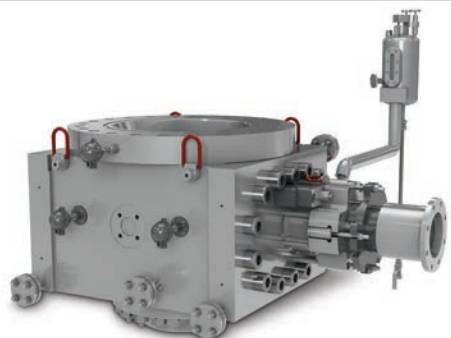
- **Viscosity** to 30,000,000 cP
- **Temperature** to 660 °F
- **Outlet pressure** to 7,250 psi
- **Differential pressure** to 5,800 psi
- **Throughputs** to 33,000 lb/hr
- Special designs for rubber extrusion
- Split housing design for quick cleaning



Chemical Gear Pumps

Maag offers five models in cast iron, steel, and stainless steel for high temperatures, viscosities, and pressures. All steel and stainless steel versions have optional jacketed housings for higher temperatures. A wide variety of bearing materials and seal designs are also available.

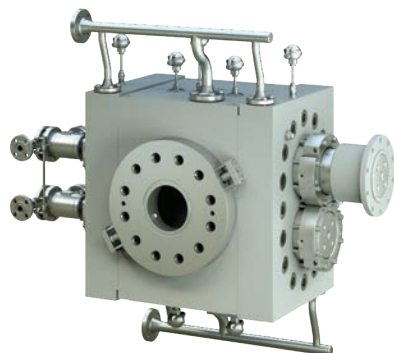
- **Viscosity** to 4,000,000 cP
- **Temperature** to 660 °F
- **Inlet pressure** from vac. to 925 psi
- **Outlet pressure** from vac. to 5,075 psi
- **Throughputs** from 0.025 to 630 gpm
- Mag-drive units with single or double containment shells available



Polymer Gear Pumps

Maag pioneered gear pumps for polymer extraction, boosting, and metering and remains the world leader in this field today. Our **vacorex[®]** and **thermorex[®]** models cover the full range of industry needs, and are offered with a variety of seal configurations.

- **Viscosity** to 20,000,000 cP
- **Temperature** to 660 °F
- **Inlet pressure** from vac. to 1,450 psi
- **Outlet pressure** to 5,800 psi
- **Throughputs** to 150,000 lb/hr

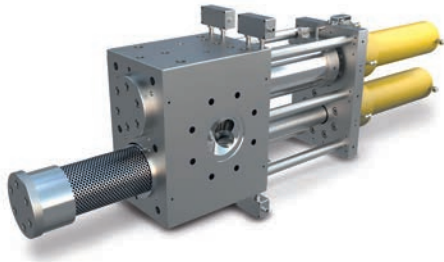


Compounding Gear Pumps

Maag manufactures **polyrex[®]** compounding systems for polyolefin and thermoplastics, such as LDPE, LLDPE, HDPE, and PP. We can supply a complete system including pump, shaft and bearing cooling system, timing gears, gear reducer, and couplings.

- **Viscosity** to 20,000,000 cP
- **Temperature** to 660 °F
- **Outlet pressure** to 5,800 psi
- **Throughputs** to 100 tons/hr
- Retrofitable shaft and bearing cooling systems for up to 100% increases in throughput available.

FILTRATION



Screen Changers

Maag offers piston and slide plate screen changers for every need, from low throughput manual units to hydraulic slide plates to continuous piston designs with very high capacity, utilizing candle filters.

- **Temperature** to 840° F
- **Pressure** to 14,500 psi
- **Differential pressure** to 4,350 psi
- **Throughputs** to 100,000 lb/hr
- Constant pressure models available
- Back flush models available



Continuous Melt Filtration

The Ettlenger ERF and ECO systems offer a filtration solution for highly contaminated materials. Both systems are designed to automatically remove the contaminants on a continuous basis resulting in stable pressure for weeks or months between screen changes.

- **Temperature** to 600° F
- **Pressure** to 4,300 psi
- **Throughputs** to 12,000 lb/hr
- **Filtration Area:** to 486in²
- **Screen Fineness:** to 80µm to 1300µm



Large Area Filtration Systems

Maag offers **simplex** and **duplex** filtration systems for polymer and monomer applications. Our patented duplex system simplifies changeover, sealing, servicing, and operation with minimized residence times for optimum performance.

- **Temperature** to 620° F
- **Pressure** to 7,250 psi
- **Throughputs** to 91,500 lb/hr
- Patented **divex**® 3-way diverter valve or ram type for smooth, "bumpless" transferring



Filter Elements

Our **micronex**® filter elements can be manufactured in pleated and flat wrap styles. Elements can be bubble-point tested and all those 20 micron and finer are given an airflow test.

- **Media** hard and soft sintered fiber metal felt, and wire mesh
- **Filtering** from 0.5 to 200 microns abs
- Manufactured in-house at our Virginia location
- Quick deliveries

PELLETIZERS AND PULVERIZERS



Underwater Pelletizers

Production Rate: up to 79,000 lb/hr

Gala/Automatik underwater pelletizer has been designed to process a wide range of polymers and thermoplastics and produces mostly spherical pellets. This efficient and flexible system is applied in the production of raw materials, compounds, masterbatches, engineering plastics, polymer composites with wood and natural filler, thermoplastics elastomers, hot-melt adhesives, gum base and in the field of recycling.

- Automated or manual blade advance
- Top mounted and rail version available
- Automated start up and shut down
- High flexibility
- Long lifetime parts
- Reliable machine
- System includes gear pump, screen changer, dryer and water system



Strand Pelletizers

Production rate: up to 44,000 lb/hr

Automatik/RES has been producing strand pelletizers for many years and with that experience comes innovation. Our strand pelletizers are produced in quantities from just a few to hundreds at a time. Each of them built with the durability needed for both the resin and compounding markets. A range of technologies from simple water bath, air knife and pelletizer supply to large waterslides and strand conveyor systems that can be integrated into a central process control management system.

- Rigid and durable design
- Precise-cut by optimal strand guiding
- Fast changeover of cutting unit
- Advanced and improved wear protection
- For dry-cut or wet-cut applications



Pulverizers

Production rate: up to 4,400 lb/hr

We design and manufacture our pulverizers with the flexibility to easily evolve with your business. The need for higher productivity, better product surface quality, and shorter molding cycles has resulted in machines that are easy to operate and deliver maximum efficiency with minimum waste or down-time. Almost 25 years of experience and constant development based on customer feedback are leading to our state-of-the-art product portfolio. Our range goes from small units for lab trials and small sample production over medium size production system.

- Highest outputs at lowest power consumption
- Disposable Discs technology lowers operating and maintenance costs.
- By using our color mixers, the cleaning times of a central mixer can be eliminated.
- Pellets are dyed directly from the pulverizer or from a silo.





Continuous Band Filtration

Provides continuous filtration of the process water in a pellet production line.

- Advance of the filter media is continuous and does not require activation in order to catch fines larger than 150 µm
- Fines are continuously separated from the process water and collected

DRYERS



Pellet Dryers

Four types of dryers are available, allowing impartial advice on the optimal and most cost-effective drying solution to meet your needs.

In all units, the collected water is circulated back to the process loop. Impact dryers with no moving parts; throughputs to 33,000 lb/hr.

- Centrifugal dryers with throughputs to 48,000 lb/hr
- Belt dryers for brittle or glass-fiber reinforced materials; throughputs to 13,200 lb/hr
- Tumble dryers for coating of pellets and drying of brittle materials; throughputs to 4,400 lb/hr



High Capacity Dryers

High capacity centrifugal dryers for continuous processes, designed for long-term production.

- Drying capacity throughputs to 150 T/hr
- Heavy duty construction
- Designed for 24/7/365 operation



Air Knives

The 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.

- Drying capacity for up to 225 strands
- High suction power for low-residual moisture values
- Dehumidification of suction air and water recirculation

TECHNICAL SUPPORT, SERVICES AND PARTS



Technical Support

Reliability and precision are critical criteria for any high-volume manufacturing process, and because of the vital role which maintenance plays in ensuring these, both at the time of start-up and throughout ongoing operation, Maag places the highest priority on excellence in our maintenance service offerings. Our skilled engineers will place your equipment into initial operation, checking all technical requirements together with you to ensure that it is ready to enter production. You will, upon completion, receive a report with the relevant guaranteed values.

- Operational reliability of your plant is ensured
- Regular checks ensure efficiency and effectiveness of your production line
- One-stop service directly from manufacturer
- Training Courses to ensure the operator possesses broad-based technical knowledge in theory and practice, and is provided tips and advice from which they will profit.



Services and Parts

Whether you need a replacement cutting rotor, feed roll or die plate, a new shaft, seal or control component, we have a wide range of original spare parts in stock and ready for immediate delivery. It goes without saying that we stand ready to support our installed base of equipment with service and parts for a long time, generally far beyond our contractual obligation.

Our team of service and support experts looks forward to supporting you in any way they can, providing you with the help and advice you need and ensuring that production-critical situations are handled with the urgency you require.

- Machine demonstration and process test on Gala underwater pelletizer/dryer
- Cleaning of dies, extruder screws or elements, filter elements, etc.
- Machine demonstration and process test on pulverizer
- Sharpening of rotors (all known supplier) and bed knives
- Sharpening of pulverizer discs
- Pumps and filtration overhaul and repair
- Rotor sharpening for all common rotors of strand pelletizer
- Sharpening of bed knives
- Overhaul of die plates for underwater pelletizers



Engineering and System Integration Capabilities

Engineering state-of-the art systems for optimization of basic to complex processes.

Process application specialists dedicated to specific markets within the industry.

- Research and Development
- Mechanical, Electrical, Controls
- Process Engineering:
 - Hot Melt Adhesives
 - Expandables (EPS, EPP, ...)
 - Micropellets
 - TPU
 - Engineering Resins

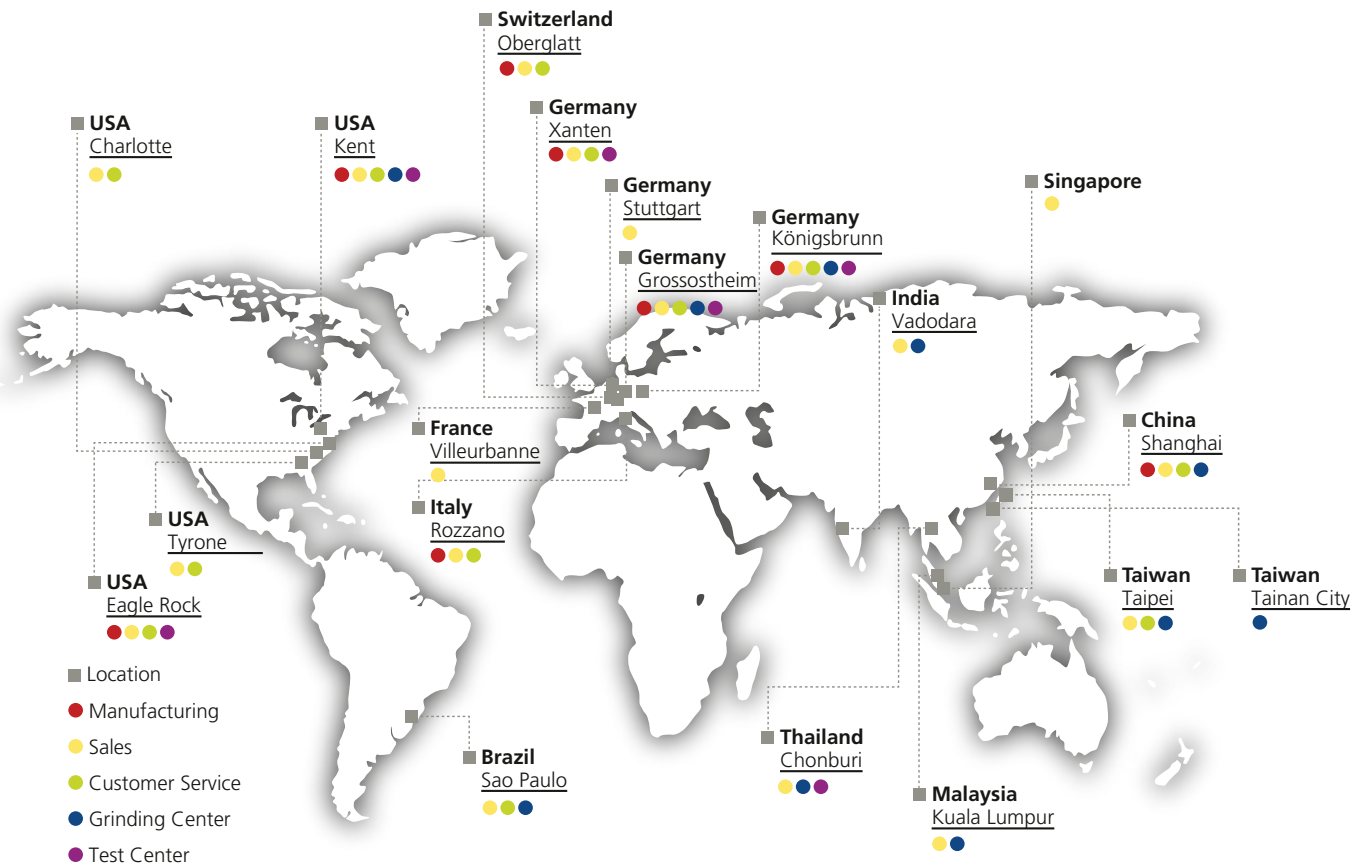
TECHNICAL SUPPORT, SERVICES AND PARTS



Technical Centers

Our technical centers provide the ability to demonstrate the process using customer materials, establish process conditions, confirm design of the system for production, train operators, and conduct R&D.

- Provide small and large scale testing
- Provide large market samples
- Contract pelletizing services
- Single-screw extrusion
- Twin-screw extrusion
- Vessel line



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