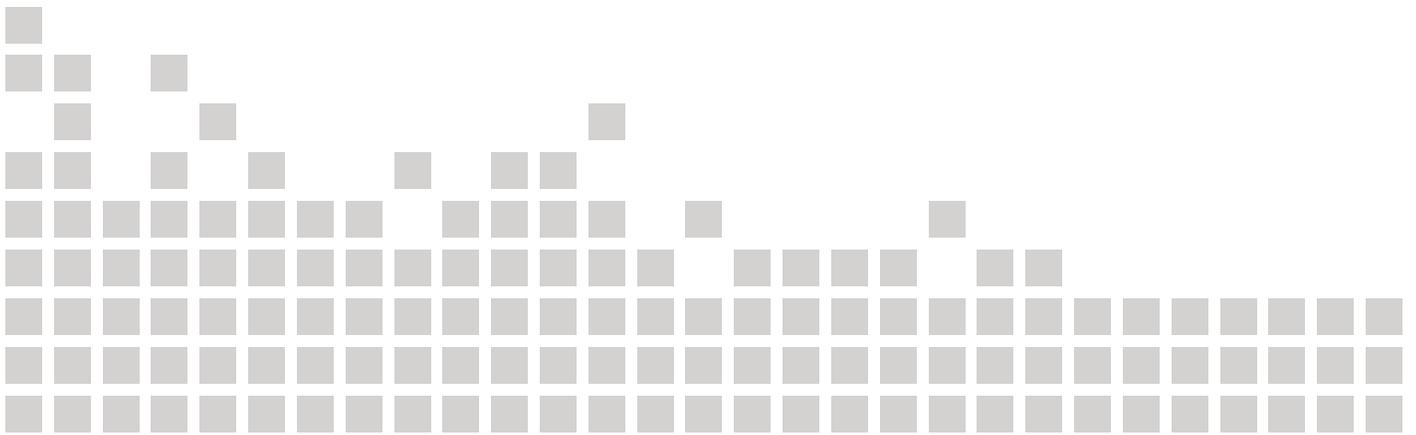


PRODUCTS AND SERVICES

North American Resource Guide



 **maag**
pump & filtration
systems

 **automatik scheer**
strand
pelletizers

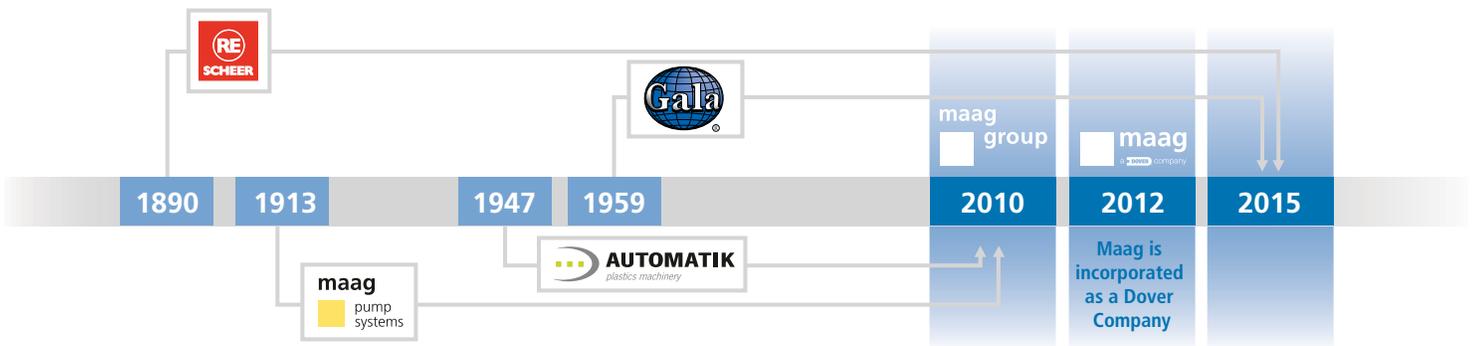
 **gala automatik**
underwater
pelletizers

 **reduction**
pulverizing
systems

ONE COMPANY. ONE VISION. FOUR GREAT BRANDS.

The new Maag family logo is designed to express our “One Company” message – an impressive, unified force working together to revolutionize plastic processing in the United States and across the globe by optimizing safety, efficiency, reliability and environmental

sustainability through innovative pump and pelletizing technologies. Our brand promise complements our vision and mission statements - it is the interconnection between aspirations, values and the Maag brand behavior that makes up our brand promise. It humanizes our mission statement and makes it easy for everyone to understand: **Building Better Solutions. Together.**



Today Maag is formed by four successful and well experienced companies with an impressive heritage. Maag Pump Systems, Automatik Plastics Machinery, Gala Industries and Reduction Engineering Scheer have joined forces to help you meet and manage the challenges of today's plastics processing opportunities better than ever before.

Each of them brings a wealth of knowledge and years of experience. All four have achieved much in the past and will achieve even more together in the future. The brands you know and trust proudly building better solutions for you, together. We offer customized product solutions and services from a single source to maximize your performance and create a competitive advantage. More than 1,000 employees are

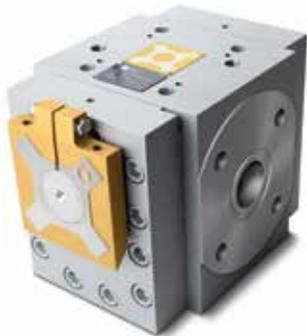
always at your service with their great application know-how and capabilities in engineering and manufacturing.

Our goal is to be close to our customers and that's why we've focused on building a strong global network. Our 16 locations, in addition to several test and service centers, are strategically located across North America, Europe, and Asia.

This combined reach, experience, and knowledge, in addition to a masterly overview of all process steps, have 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.

Alongside expertise in hardware, a sound understanding of the overall process is vital, and is an increasingly key factor in achieving efficient production. Our experts are able to support you and to introduce to you the solution that best fits to your individual demands.

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.

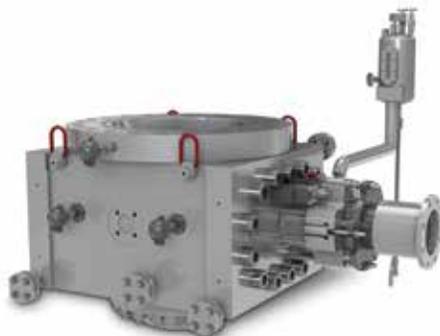
- **Viscosity** to 30,000,000 cP
- **Temperature** to 660 °F
- **Outlet pressure** to 7,250 psi
- **Differential pressure** to 5,800 psi
- **Throughputs** to 33,000 lb/hr
- Special designs for rubber extrusion
- Split housing design for quick cleaning



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.

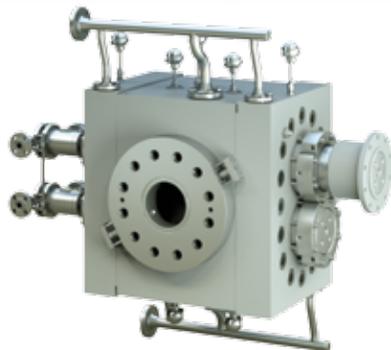
- **Viscosity** to 4,000,000 cP
- **Temperature** to 660 °F
- **Inlet pressure** from vac. to 925 psi
- **Outlet pressure** from vac. to 5,075 psi
- **Throughputs** from 0.025 to 630 gpm
- Mag-drive units with single or double containment shells available



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 110,000 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



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 1,180° F
- **Pressure** to 7,250 psi
- **Differential pressure** to 4,350 psi
- **Throughputs** to 91,500 lb/hr
- Patented **divex**® 3-way diverter valves 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

The Maag 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

The Maag 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

The patented Disposable Disc Technology is what makes Maag Pulverizers cutting edge. This technology eliminates the cost- and time consuming regrinding off-site as this has been the case before. Instead they are simply replaced by a set of new ones. The discs are only 8 mm thick and weigh 6 kg per piece. Compared to the discs previously used, which can weigh 25 kg or more each, it does not only cut down the cost for transport significantly - the low weight also improves handling during installation and removal and reduces conversion time around one third. The opening that passes through

the center of the disc is 40% larger in the Disposable Disc design. This results in a significantly higher air flow, which improves cooling of the milling chamber and increases throughput rates. Special retrofit kits are available to convert existing Reduction Engineering pulverizers to the Disposable Disc Technology as well as our new Designs.

- Final particle size 500 μm
- High energy efficiency
- Small footprint
- Remote access to machine interface
- Various disc configurations available
- Best control of particle size distribution



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 220,000 lb/hr
- Heavy duty construction
- Wedgewire screens
- Solid Rotor



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 very 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

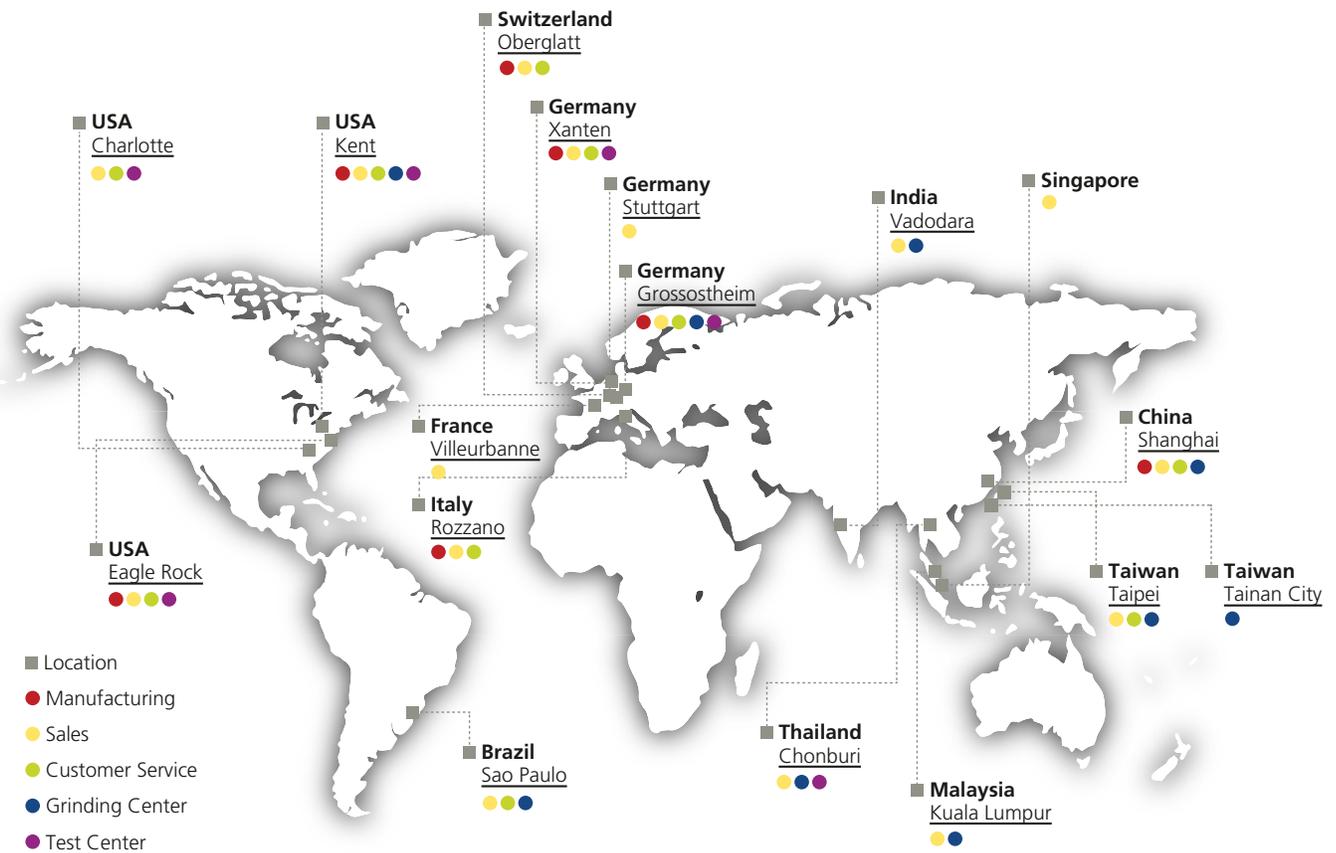
TECHNICAL SUPPORT, SERVICES AND PARTS



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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