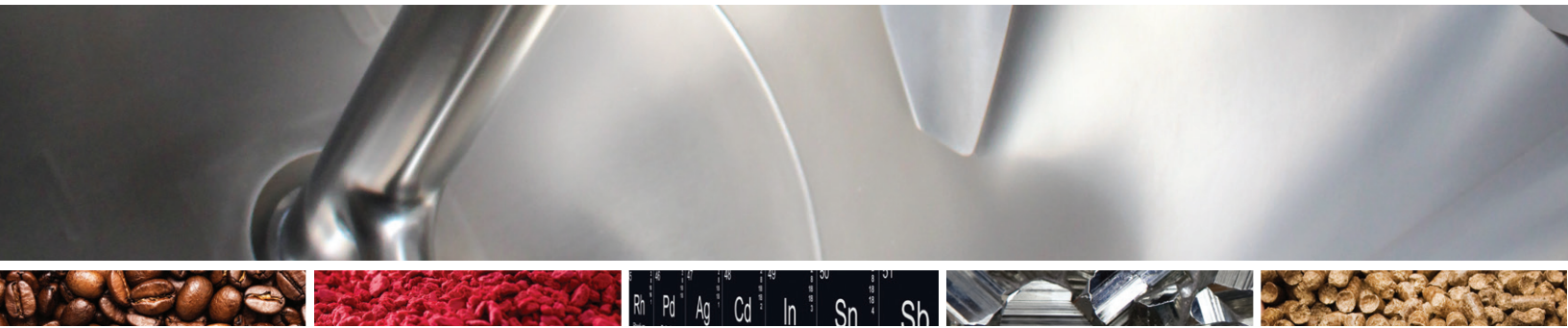


INSIGHT
INNOVATION
ADVANTAGE



MARION[™]
PROCESS SOLUTIONS

Partnering with Marion Process Solutions allows you to leverage our experience in working with thousands of applications, to create a unique solution designed to fit the specific requirements of one type of application...yours. Made custom. One at a time — by experts.

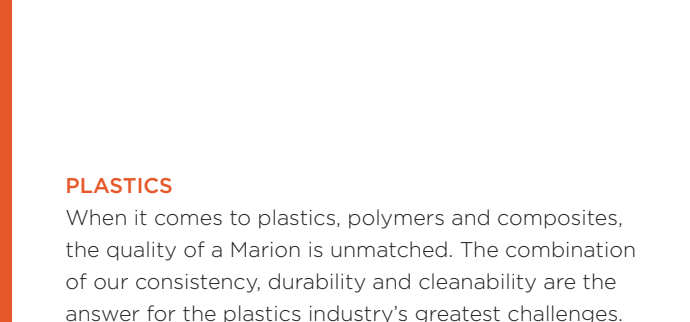
THE PERFECT MIX OF INSIGHT, INNOVATION AND ADVANTAGE.

Since 1938, Marion Process Solutions has delivered the insight needed to develop innovative mixing, blending and drying equipment that generates a competitive advantage for our customers. Regardless of the industry, application or challenge, Marion puts decades of expertise into five key markets, and continues to build our reputation on manufacturing the perfect mix of solving problems, adding value and creating an exceptional experience.



FOOD

As the world's only 3-A Authorized horizontal mixing manufacturer, Marion Process Solutions has redefined sanitation for food and nutraceutical processing. It's our commitment to you to uphold the highest standards in the design, materials and fabrication of our equipment.



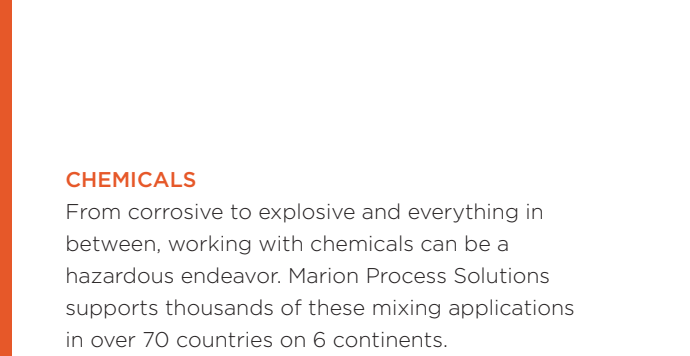
PLASTICS

When it comes to plastics, polymers and composites, the quality of a Marion is unmatched. The combination of our consistency, durability and cleanability are the answer for the plastics industry's greatest challenges.



MINERALS

Designed to handle the rough abrasive nature of mineral processing, Marion has tackled the toughest industry problems by reinforcing mixers with cast arms, abrasion resistant liners and other rugged features that provide for ease of maintenance and prolonged life.



CHEMICALS

From corrosive to explosive and everything in between, working with chemicals can be a hazardous endeavor. Marion Process Solutions supports thousands of these mixing applications in over 70 countries on 6 continents.

47	48	49	50	51	52	53	54		
Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	Iodine	Xenon
101.07	106.42	107.8682	112.411	114.818	118.71	121.76	127.6	126.90447	

BIOMASS

This rapidly evolving industry is in constant motion, and our continuous mixing solutions and other proprietary equipment are created specifically to work with material that's naturally hard to process. Rely on Marion to help turn your green into gold.

MIX SOLUTIONS



WORLD CLASS SOLUTIONS. MADE IN AMERICA.

When you've been at this as long as we have, it would be easy to say "We've seen it all." But with the speed of change increasing exponentially, that's impossible. We listen. We discover. And we create custom solutions centered around your needs. We believe that providing insight is good business. Delivering innovation is must business. And creating an advantage for you is our business.



COMBINING FORM WITH FUNCTION

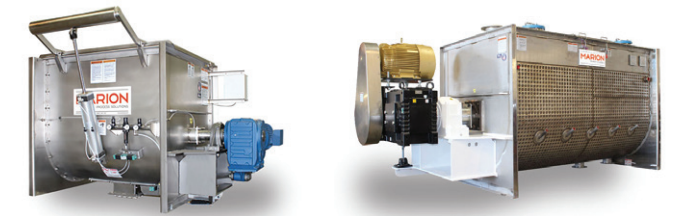
Which is right for your application...Paddle, Ribbon or Hybrid? Many considerations come into play when selecting the proper agitator, but its foundation will always start with a solid one-piece shaft crafted to ensure less than .005" run-out. Choosing the correct configuration is crucial for optimizing your blend, minimizing your mix time and ensuring effective discharge of material.

IT'S A MARION: AND IT'S ALL ABOUT YOU



FOOD

From bakery premixes to coffee, spices to nutraceutical blends, our mixers combine the high performance you expect with the sanitation you demand.



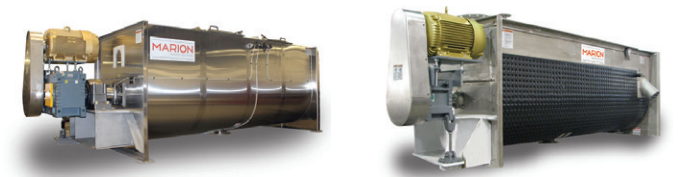
PLASTICS

Whether you're working with powders, flakes, pellets or resins our equipment is tailor-made for your exacting requirements.



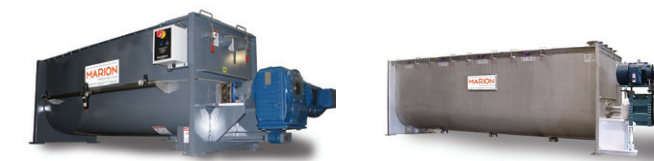
MINERALS

Count on Marion mixers to be your workhorse in the abrasive world of cements, grouts, gypsum, refractories and soils.



CHEMICALS

With options to heat or cool, apply pressure or pull vacuum, you have the flexibility needed to process pharmaceuticals, detergents, paints, pesticides and more.



BIOMASS

Material in the biomass industry is flat-out hard to move, mix, meter or discharge. The team at Marion will share our insight in designing a solution that's right for you.

To view more examples of craftsmanship at its finest, tap into the Marion advantage at marionsolutions.com

MICROWAVE DRYING



THE NEW WAVE IN HEATING AND DRYING.

Whether you're reimagining what's possible or ready for full-scale production, WaveMix is the innovative solution for heating and drying. Applying microwave energy to an agitated bed of material significantly shortens processing times, increases energy efficiency, and eliminates burning and case hardening. WaveMix unlocks the potential to create a competitive advantage — for you.

WAVEMIX

No hot spots. No burning. No heat transfer losses. No long waits. In short, no worries. There are so many more reasons to choose WaveMix for your process. Sample applications include:

- Powder drying
- Finish drying
- Solvent removal
- Microbial reduction
- Low-temperature drying
- Change of state
- Dehydration

MICROWAVE VS CONVENTIONAL HEATING & DRYING

FEATURE	BENEFIT
Material is Heated & Dried Directly	<ul style="list-style-type: none"> • Rate only limited by the power installed • Eliminates burning at heat transfer surface
Agitated Applicator	<ul style="list-style-type: none"> • Evenly heats entire batch • Versatility of mixing, heating and drying in one vessel
Whole Heating & Drying	<ul style="list-style-type: none"> • Heats the whole product, not just the surface • No case hardening when drying
Instant Power Control	<ul style="list-style-type: none"> • Precise temperature control • No warm-up or cool-down time needed

WAVEMIX: COMBINING WAVES WITH MOTION



CALCIUM CARBONATE

Low-temperature microwave drying under vacuum. High-quality thermosensitive products require game-changing solutions. WaveMix is smart redefined.



CARBON BLACK

8 hours to 80 minutes. That's the reduction in carbon black drying time over conventional methods while achieving a moisture content of .049%. Revolutionary.



CHLORIDE POWDER

Achieving 1% moisture in ½ the time of traditional drying equipment. WaveMix by Marion Process Solutions is the superior solution for age-old problems.



CERAMIC PROPPANTS

Efficient. Precise. Uniform. WaveMix is the ideal choice for high end heating, drying and sintering of ceramic and nanotechnology applications.

WAVEMIX MINI

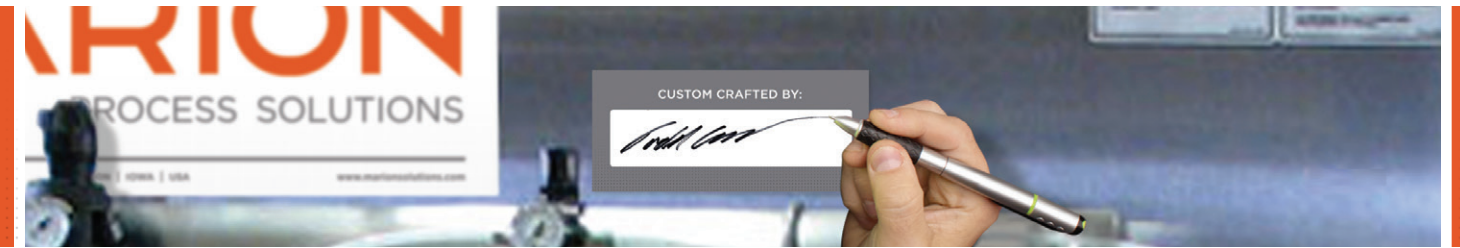
Marion's R&D-sized microwave mixing system. Think of it as a test lab's killer app, allowing you to answer the question "What If You Could..."

- Remove residual moisture
- Significantly reduce your time
- Rapidly and uniformly heat product
- Rethink your current process
- Gain a distinct competitive advantage

Now you can. Tap into the WaveMix MINI by utilizing our 3-6 month rental program, or complimentary testing in Marion's lab to find solutions to your toughest challenges.



CUSTOM OPTIONS



SOLUTIONS FOCUSED ON YOU.

Your needs aren't off-the-shelf, so why should your process equipment be? At Marion Process Solutions, one size never fits all. Our products are engineered and fabricated for your needs, for the long haul. Custom is all we do, and we do it well.



AIR SUPPLY MANIFOLD

SealGuard™ is your insurance policy against ruined seals. Ensuring the air is turned on and supplied at the proper pressure is simple and smart.



BAG DUMP

Available in stainless or carbon steel, our bag dump hoods are the ideal solution to prevent material loss, reduce contamination and control dust.



BULK BAG FRAME

The Marion Bag Frame is the perfect combination of form and function that results in the perfect solution for filling bulk bags and FIBC's.



DISCHARGE VALVES

When determining which valve will work best, consider your product flow characteristics, desired discharge rates and cleanout requirements for your mixer.



GASKETS

Tired of the same old dusting problems? Adhesive tape not staying put? Marion's O-Ring gasket proves even the simple things can make the biggest difference.



HIGH SPEED CHOPPERS

Various cutting heads rip apart and circulate lumps and agglomerates, break up liquid-rich shot balls, open matted fibrous materials and distribute pigments.



INJECTION MANIFOLDS

Marion's liquid manifolds, shortening presses, liquid pumping units and nitrogen blanket inlet ports are perfect for solving your material addition problems.



INTEGRAL JACKETS

Suitable for steam, hot oil or water, our ASME-rated jackets with optional external insulation can handle temperature ranges from 600°F to -20°F.



SEALS

Whether it's our fantastic lip seal, basic stuffing box or mechanical seal, count on Marion to help guide you through the selection process.



CLEAN IN PLACE

Marion's CIP systems minimize cycle times, improve hygiene and enhance product quality - all while reducing water/chemical usage and manual cleaning.



CONTROLS

From simple E-stop enclosures to sophisticated PLC driven touchscreen panels, Marion's iNCONTROL™ team will develop a solution tailored for your application.



COVERS

Endlessly configurable, our covers start with safety and ergonomics in mind. Counter-weighted or air-actuated, with safety grates, interlock switched and more.



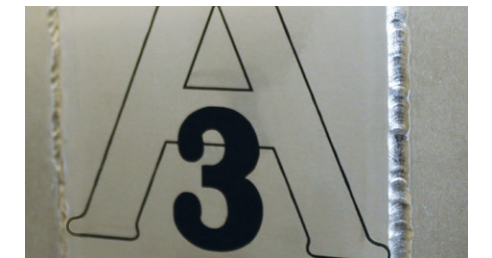
SUPPORT STRUCTURES/MEZZANINES

From simple tube frames to elaborate mezzanines with OSHA compliant stairs, railings and decking, we design and fabricate a variety of support structures.



SURGE HOPPERS

Fabricated out of stainless or carbon steel, our custom designed surge hoppers are excellent at weighing, transferring and receiving material.



3-A AUTHORIZED

As the only 3-A Authorized horizontal mixing and blending manufacturer in the world, our attention to fit and finish in sanitary applications is second to none.

TESTING, PARTS & SERVICES



ASSESS. MAINTAIN. OPTIMIZE.

Your test, your results, the way you want it.

Marion maintains a comprehensive lineup of test mixers that can be configured and delivered to your facility. Or, all of the mixing and drying resources you need are at your disposal at our lab in Marion, Iowa. To schedule a visit or send material to us for an efficient and effective test utilizing our expertise from start to finish, connect with us at wowfactor@marionsolutions.com.

Count on the industry experts to keep your equipment running at optimal performance.

The Marion Performance Group (MPG) specializes in ensuring you receive exceptional value from day one, and for many years to come. Simply put — we create peace of mind while guaranteeing a superior return on your investment.

Leveraging a national network of factory-trained technicians, MPG's hallmark is our flexibility to custom craft a program to your precise parts and services requirements. Whether it's just-in-time parts, regularly scheduled on-site visits or our comprehensive audit program that extends your warranty, we'll help you control costs, improve uptime, and keep you running. A smart investment applied in smart ways — it's what you expect of Marion.

✓ AUDIT REVIEW

We'll take an in-depth look at all facets of your machine, provide a comprehensive performance report and three year planning guide.

✓ ON-SITE SERVICE

Experienced professionals who understand the critical nature of servicing your machine efficiently within the requirements of your facility.

✓ ANNUAL REVIEW

One on one, or invite your team. We'll review not only the performance of your machine, but tips, techniques and trends you need to know.

✓ TAILORED MAINTENANCE INTERVAL LEVELS

Marion Performance Group will design a maintenance schedule specific to your machine, creating a playbook for your team to follow or choose to engage our experts.

✓ TECH UPDATES

Keeping you on top of the latest technologies and parts to support your Marion — continually looking to optimize performance.

✓ DETAILED RECORD KEEPING

Need to know when your machine was last serviced and what was done? MPG provides instant access to your maintenance records.

✓ EXTEND YOUR WARRANTY

For a fixed quarterly fee, MPG will extend your warranty for three years, and provide all required services and related parts at no additional charge.

MARION[™]
PERFORMANCE GROUP

MARION PERFORMANCE GROUP SERVICE LEVELS

With three different levels of service and the ability to customize each one, we'll make sure you receive exactly what you need.

SILVER

Designed for the company that simply needs an expert to "keep an eye on" your machine. The Marion Performance Group will perform a thorough audit and provide a detailed report grading all aspects of your unit.

PLATINUM

Building on Silver's audit report, Platinum includes standard annual maintenance services including replacement of the main shaft seals and gaskets, greasing the bearings and replacing the oil in the drive gearbox.

TITANIUM

Combine Silver and Platinum with the confidence of a three year extended warranty, and on-call service techs available 24/7.

MARION™

PROCESS SOLUTIONS

3575 3RD AVE, MARION, IA 52302 | 800.397.6371 | marionsolutions.com