

Precision Mechanical Services



Go Further with Triosim

Field Services

Triosim's experienced field service team provides expert maintenance and repair of your critical production equipment. We also provide inspection services in order to schedule proactive preventive maintenance to help you avoid costly unscheduled down time. Capital equipment installation is an area that Triosim provides value-added precision mechanical services.

Consulting & Inspection of Pulp Mill Equipment

Triosim's field services team works closely with pulp mill operations team to inspect, evaluate and develop detail work scopes to maintain pulp washers, screens and pulp handling equipment leading to improved performance and reliability.

Material Composition Analysis

Using state-of-the-art material composition analysis technology, Triosim technicians are able to make a positive material identification in the matter of seconds.

Diagnostic Services

There are significant benefits associated with the use of diagnostic equipment that employs state-of-the-art technology. Maintenance and Operations perform in a more efficient, cost effective way, with greater accuracy than ever before.

For Pulp Washer wire performance, the utilization of a Leaf Tester has led to improved wire performance, increased efficiency and cost reduction based on fiber and fines retention. These services are readily available and administered by your local Triosim technician.

Troubleshooting

The expertise and experience housed at Triosim is available twenty-four hours a day, seven days a week to help you find solutions to your process or equipment problems. With backgrounds and experience in mill maintenance and operations, your local Triosim team can quickly assist in machinery performance and reliability issues.

Maintenance and Repair

Maintenance and Repair

Triosim's field services mechanical maintenance teams come fully equipped with all tooling required to tackle the most difficult jobs in the pulp and paper industry. Utilizing 53' and 28' Semi-box Trailers, the Triosim millwright will have a vast array of mechanical hand tools, precision tools, rigging equipment, hydraulic equipment and consumables at their fingertips.



Industries Served

- Paper & Pulp
- Plastics
- Oil & Gas
- Steel
- Manufacturing
- Converting
- Food & Beverage
- Other Specialty Served:
 - Non-woven
 - Roofing
 - Marine
 - Energy
 - Military

920-968-0800

www.Triosim.com

Mechanical Services

Specific mechanical services offered include, but not limited to:

- Skilled Trades Labor (Millwrights, Pipe Fitters, Welders, Riggers)
- Project Management
- Routine Machine Outage Support
- Capital Equipment Installations
- Onsite Engineering
- Onsite Machining
- Welding
- Pipe Fitting and Welding
- Laser and Optical Alignment
- Non-Destructive Testing (NDT) Inspections
- Yankee Surface & Leak Repairs
- Slitter Maintenance Services

Certifications

Triosim prides itself on delivery high quality maintenance services. In order to provide our customers with the highest possible quality, we maintain the following industry related certifications:

- Precision Trained Millwrights
- SNT TC 1A Level III
- ASME R, S, and U Code Stamps
- Certified Riggers
- Certified Welders
- Certified Crane Operators

Precision Maintenance

Triosim recognizes the importance of trained and qualified precision millwrights. Our highly-trained millwrights are experts in Precision Maintenance Methodology and will work to ensure that your mill runs in a precision state. An engineered precision state is more than precision alignment – a precision state means zero pipe stress, properly torqued bolts, precise positioning of coupling keys, and correctly installed couplings.

Our engineered precision maintenance and millwright services include:

- Maintenance repair strategies
- Alignment: Optical, Conventional and Laser capabilities
- Laser alignment on belt and chain drives
- Rotation Equipment Troubleshooting
- Strobe light inspection
- Thermo imaging
- Thermal growth calculations
- All soft-foot corrections
- Key length calculations
- Bearing fits checked and recorded
- Bearing clearances recorded
- Bolts torqued to specifications
- Pipe stress corrections



Equipment Serviced

With expertise from the Woodyard to Paper Converting, Triosim maintains and services a vast array of mechanical equipment.

Our precision maintenance methodology can be utilized for the following equipment:

- All types of Pumps, Motors and Fans
- All Types of Bearings Applications
- Washer Drums, Stock Filtering & Cleaning Equipment
- Screens, Pulpers, Refiners and Agitators
- Belt Drives and Conveyors
- Chain Drives and Conveyors
- Gear Reducers, Direct Drives
- Paper Machine Rolls
- Screw Conveyors
- Woodyard Equipment
- Converting Equipment
- Kilns

Slitter Maintenance

Triosim provides dedicated and dependable slitter maintenance services and support. Our maintenance program insures optimal performance of slitting equipment, and minimizes the risk of additional costs due to poor cut quality, sheet brakes, unexpected down time and accidents.

Our customized slitter maintenance services include:

- Consistent high-quality blades and bands
- Super finished knife sharpening
- Quick-Turn-Around (QTA) sharpening service
- Slitter holder rebuild services
- Replacement parts

Benefits of slitter maintenance:

- Reduces overall operating costs related to slitting
- Improves profitability
- Increases productivity
- Improves cut quality
- Controls key slitting variables
- Implements safe operating practices
- Reduces mill stores inventory

Field Machining, and Metal Disintegration

In-place Machining

For precision in-place machining, Triosim is pleased to offer a comprehensive set of tools and capabilities, including custom built equipment to provide the highest quality product possible including:

Journals machining up to 45 Inches in diameter

- Washer trunnions
- Dryer journals
- Paper machine rolls

Facing up to 60 Inches in Diameter

- Digester nozzles
- Dryer head gasket surfaces
- Tank flanges
- Washer valve seats

Milling

- Motor and pump bases

Line Boring

- Dryer gear cases
- Press housings
- Pin fits

Key Cutting

- Coupling fits
- Dryer gear fits

Metal Disintegration

Triosim specializes in metal disintegration that includes removing broken studs, taps, and drills without damage to the internal hole. Metal Disintegration can also remove seized or broken bolts. The cutting action of a metal disintegrator is accomplished by creating a series of intermittent electric arcs that break down the hardest metals into minute particles. An electrode, held in the head of the disintegrator, vibrates as it cuts while a coolant is pumped through the electrode to wash away the powdered metal.

- Dryer head bolts
- Press section pins
- Broken taps

Rebuild Services:

Triosim rebuilds and upgrades strategic mill equipment to meet the ever-changing needs of the pulp and paper industry.

Rebuilds and Installations:

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With regards to Pulp Washer Drums, our 30,000 square foot shop has the capacity to handle any size drum. Our comprehensive re-manufacturing process includes a complete tear down, inspection, findings report and rebuilding your drum with custom fabricated metal or FRP components.

Paper Machine Winders are another piece of equipment that require periodic rebuilds to upgrade safety equipment and capacity improvements. Upgrading Winder drives, new slitting equipment, safety gating fit perfectly with Triosim's precision maintenance installation protocols.

Triosim's rebuild service will extend the mechanical life of your equipment and increase the performance to your expectations. All of our services offer considerable savings versus purchasing new equipment.

Rebuilds & Machinery Rebuilders

Rebuilding a part or component can extend the life of your pulp and paper mill equipment at a rate comparable to a new, replacement component, often at half the cost.

The rebuild service offered by Triosim extends well beyond repair or refurbish. Every project is carefully analyzed to determine the impact of the rebuild process on critical dimensions. Our technicians are experts at assessing the effects of processes on the strength and corrosion resistant properties of materials.

Our technicians rebuild the worn surfaces on your machinery using specialized welding procedures and re-machining processes that restore your equipment to the original specifications. We use our CAD design and reverse engineering capability along with our machining equipment to manufacture replacement parts and components. We can also retrofit or completely rebuild your machines. As machinery rebuilders with comprehensive capabilities, we can measure critical components and make necessary repairs or replacements. Our machinery rebuilding process includes the application of high-performance surfaces to enhance the service life of your equipment.

Mechanical Services

We Can Rebuild:

Washer Drums

- On-site rebuild services, or performed at our location.
- Options for partial rebuild and repairs.
- Complete rebuilds can be performed in phases to accommodate downtime constraints.

Fiberglass Reinforced Plastic (FRP) Washer Drums

- Triosim offers the most comprehensive rebuild service available for FRP washer drums.

Discharge Valve Assemblies

- Available for FRP & Metal valves.
- A remanufactured FRP Valve will provide service life comparable to a new one, often at less than half the cost.
- Reclaim original structural and dimensional integrity.
- We also supply new replacement valves if a rebuild is not suitable.

Vats

- Relining services.
- Replacement of Vat Wall Inserts, Packing Panels and Motor Bases.
- Repair excessive wear at the Vat that can weaken support structure for the Gearcase.
- Dual metallurgy options available to lower costs.

Carbon Bushing Assemblies

- Fraction of the cost of a new replacement.
- Verify critical dimensions of the housing and replace damaged Carbon Bushing with a new one.

Trunnions

- Rebuilds can now be completed on-site utilizing a portable Journal Lathe
- Off-site rebuilds

Gearcases

- Can be rebuilt with Triosim Parts to OEM specifications
- Options for partial rebuild and repairs

Tail Shafts

- Can be rebuilt with Triosim Parts to OEM specifications
- Options include new Bearings, Seals, and Bearing Housing

Winders

- Complete Drives Upgrades
- Safety Guarding Installation
- Slitter System Upgrades
- OEM Equipment Modifications

Piping and Welding

Piping:

Triosim Field Services Teams are equipped and staffed to be able to repair both large and small-bore piping systems within the Pulp and Paper Industry. Our services teams can also deliver small to medium size piping installations scopes of work of new systems. Triosim does have and maintains R, S, U ASME Pressure Vessel Code Stamp Certifications that allows for repair to critical high pressure, high temperature and corrosive piping applications.