

MAC Engineering and Equipment Co., Inc.

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MAC Engineering and Equipment Co, Inc. Eagle Oxide Services

EQUIPMENT OVERVIEW



MAC Engineering & Equipment Co., Inc.

MAC Engineering has been supplying equipment to the lead-acid battery industry since 1965. Since then, over 4000 pieces of MAC battery-making machines have been installed in battery companies located in over 50 countries. For customers outside the United States, MAC has teamed up exclusively with Sorfin-Yoshimura to provide international sales and support for all your equipment needs.

MAC Paste Prep System, Feeders / Parting Feeders

- **MAC Paste Prep System** - breaks up paste nuggets for excellent paste quality
- **MAC 170, optaMAC, MACvac** - roll-away mechanical or vacuum feeders as well as the optaMAC / MACvac Parting Feeders.

Pasters: From cast grids to continuous lines, we make the best pasters in the industry

- **Steel Belt Paster** - uses FCC dual sided pasting and steel belt technology
- **optaMAC 610XM Paster** - dependable cotton belt paster for continuous lines
- **optaMAC X610, X540, and 170 Pasters** - belt pasting options for gravity cast grids

Pasting Options

- **MAC Acid Surfer** and **Burlan Pasting Belts**

MAC Flash Drying Ovens: Gas or electric, gravity cast or high speed continuous line

- **optaMAC Flash Drying Ovens** - built to fit your production needs. 20-25% more efficient than competition ovens by utilizing advanced nozzle design and airflow

Curing (Hydrosetting) Systems

- **MAC Curing Chambers** - hydrosetting and curing systems to fit any plant's operation
- **MAC Curing Components** - retrofit existing curing chambers with MAC Curing automated precision technology

Preparation / Handling Equipment: Complete parting, trimming, stacking, brushing and milling equipment to prepare your plates for the cast-on strap process

- **Hi-Speed Stacker** - Stack Aligning & Brushing options for gravity or continuous lines
- **Automated Rack Handling System** - moves racks into and out of the robot cage
- **MACparter 190, MACparter 190V (vacuum feeding)** - plate parting and lug brushing
- **MAC Plate-Prep System, flowMAC Parter, Brushing/Blocking Stations**

Cast On Strap (C.O.S.) Equipment

- **MAC/C.O.S. (rotary), dynaMAC C.O.S.** - AGM centering/compression option available
- **C.O.S. Molds** - advanced long life design and construction
- **MACstrap Caster, MAC Burning Rack, MAC Rotary Burner** - assist in hand burning

Assembly Equipment: A wide range of machines for your assembly needs.

- **MAC Leak Tester, autoMAC Acid Filler, MAC VRLA Acid Filler, MAC Post Cleaner, MACsealer HS 6-3 box sealer, MAC Engraver, MAC Rotary Dumper, MAC Separator Caliper, MAC VRLA Separator Pleater**

Industrial Equipment: Machines for all your industrial production needs

- **Industrial supraMAC Paster** (with shuttle, portable hanging or supraMAC feeders)
- **Industrial MACacid Surfer**
- **Industrial supraMAC Oven** (with horizontal or hanging offbear conveyors)
- **Industrial Stacker/Palletizer**
- **industroMAC Sleever**
- **Industrial C.O.S.**
- **Industrial Heat Sealer**



Eagle Oxide Services

Earl Busdieker and Joseph McKinley started in the oxide industry by manufacturing oxide independently for 22 years. In 1994, they took their manufacturing experience and engineering knowledge to found **Eagle Oxide Services** to build lead oxide production systems the way manufacturers want them. Eagle has now supplied equipment and services to more than 60 customers in 20 different countries, continuously expanding its engineering capabilities and diversifying with innovative new products that use state-of-the-art technologies for your oxide production needs.

Barton Oxide Systems: 3 sizes, for high quality Barton leady oxide production with precise controls for specific oxide characteristics

- **EOS 500** - oxide production between 350-450 kg/hr (700-900 lbs/hr)
- **EOS 1000** - oxide production between 750-950 kg/hr (1,500-1,900 lbs/hr)
- **EOS 1200** - oxide production between 850-1,150 kg/hr (1,850-2,500 lbs/hr)
- **Barton Retrofit Controls Package** - optimize existing oxide systems with Eagle technology, utilizing automated PLC precision controls and sensors

Ball Mill Systems: 3 sizes, for high quality ball mill oxide production below lead melting temperatures

- **M-8** - oxide production up to 8 tons/day (7,250 kg/day)
- **M-15** - oxide production up to 15 tons/day (13,600 kg/day)
- **M-25** - oxide production up to 25 tons/day (22,700 kg/day)

Hammer Mill Systems: 3 sizes, for milling oxide to a finer particle size

- **HM3** - mills up to 2,500 lbs oxide per hour (1,120 kg/hr)
- **HM4** - mills up to 4,000 lbs oxide per hour (1,810 kg/hr)
- **HM6** - mills up to 5,500 lbs oxide per hour (2,500 kg/hr)

Lead Melting Systems: Standard and custom sized lead pots for lead pig or hogs

- **Lead Melting System** - melts lead ingots using gas, electric, or oil heat; 5 to 50 ton capacity per day

Red Lead Systems: 3 sizes, red lead oxide production with specific tolerances up to 95-98% pure red lead

- **RLF 1000** - up to 8,800-12,100 lb per day (4,000-5,500 kg/day)
- **RLF 2000** - up to 15,400-19,800 lb per day (7,000-9,000 kg/day)
- **RLF 3000** - up to 28,600-35,300 lb per day (13,000-16,000 kg/day)

Litharge Systems

- **LCF 1000** - system producing up to 800 lbs (360 kg) litharge/hour
- **Granular Litharge System** - continuous, powdered litharge to granule

Oxide System Components

- **Baghouse** - filters out airborne oxide particles; pulse jet cleaning, GoreTex filter bags, leak detectors, control dampers, exhaust fans, HEPA filters, etc
- **HEPA Filters** - High Efficiency Particle Arrestor for oxide production
- **Cyclone** - mechanical airborne oxide particle separation
- **Transfer and Conveying Systems** - pneumatic/vacuum and mechanical/screw conveyors, automatic samplers, bucket elevators, rotary valves, etc
- **Ingot Conveyors / Feeders** - for automatic feeding and transporting of 25 kg, 45 kg, and 1000 kg lead ingots
- **Cylinder Casters** - cast feed material for ball mills
- **Storage Tanks** - 10 to 100 ton storage capacity

