PALM TECHNOLOGY

THE COMPANY

Palm Technology was founded in 1987 to introduce top-tier equipment to the surface finishing industry. Entering our fourth decade, Palm has become a global leader in advanced process lines, instrumentation, tanks, and components. Our wide range of products meets the demanding needs of industries such as Aerospace, Automotive, Consumer Goods, Defense, Industrial Manufacturing, and Medical Equipment. From fully automated lines to individual tanks and components, Palm delivers precision-engineered solutions.

Our growth stems from a strong commitment to continuously improving and expanding our offerings. Palm specializes in Automatic Lines for Decorative and Functional Plating, Barrel and Rack Processing, Electroless and Electrolytic Plating, Anodizing, Etching, Passivation, and Specialty Coatings.

We are also industry leaders in Electroless Nickel tanks, automated bath controllers, compact heat exchangers, and filtration systems.

Palm remains dedicated to providing the high-quality products that have defined our brand since day one.

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La Vergne, TN 37086
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FACILITY

Located just outside of Nashville, Tennessee, Palm Technology operates its headquarters and manufacturing within a 50,000-square-foot facility spanning 5 acres.

With its high bay ceilings, our site is fully equipped for producing a diverse array of products, from small components to large-scale equipment. Designed for optimal efficiency, our facility layout facilitates seamless assembly and customization of our surface finishing solutions.

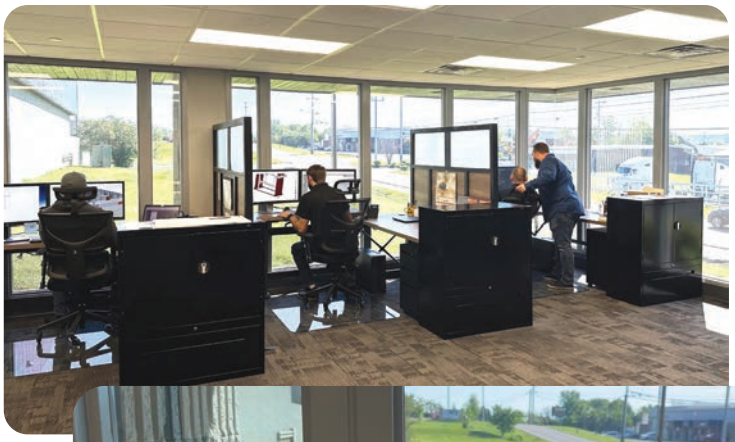
Palm Technology's strategic location near major transportation arteries, including the convergence of three major interstate highways, I-40, I-24, and I-65 ensures seamless access to national and international markets.

As a result, Palm Technology's location allows for access to the vast majority of major manufacturing cities within a day or two for most transportation needs.

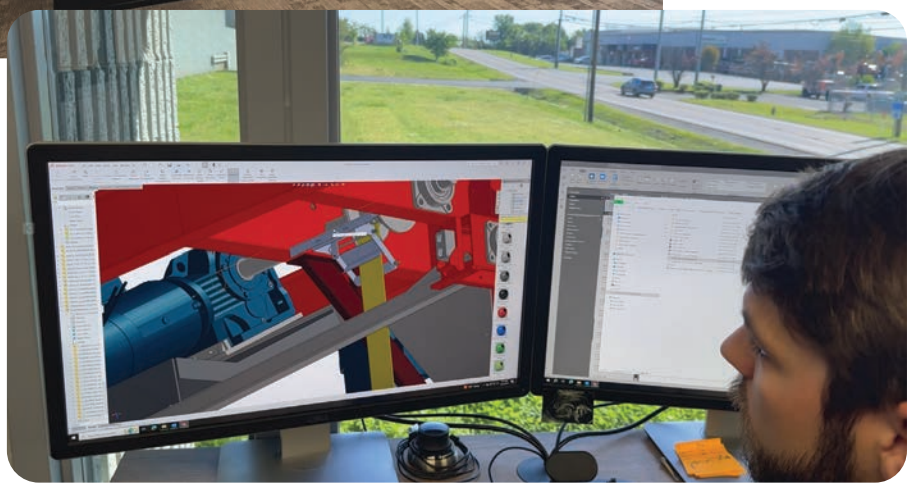
ENGINEERING

At Palm Technology, collaboration is at the heart of creating lasting solutions for the demanding surface finishing industry. Our skilled and diverse team customizes each project to align with client goals, fostering open communication, teamwork, and on-time, on-budget delivery.

We're proud of our proven project success, driven by proactive risk management from design through installation. Using advanced 3D modeling and Finite Element Analysis (FEA), we ensure our designs meet the highest performance and structural standards.



Cross-training between engineers, project managers, and fabricators enhances our ability to create practical, efficient, and cost-effective designs. This integrated approach ensures smooth transitions from design to manufacturing.



Our engineers work closely with fabricators and installers to quickly address any challenges, maintaining high quality throughout production. Committed to professionalism and trust, we build lasting relationships and deliver reliable, innovative systems for our customers.

FABRICATION CAPABILITIES

Our company offers a full range of capabilities in plastic and metal fabrication, using state-of-the-art machinery to ensure precision and quality in every project.

In plastic fabrication, we utilize advanced AXYZ CNC routers (5x10 and 6x14) with Automatic Tool Changers (ATC) for efficient and versatile cutting.

YouTube

Our equipment includes a 13-ft Wegener butt welder, 10-ft Wegener bender, and a custom built hydraulic channel fusion welder, delivering strong, seamless joins. We also use Wegener extrusion and hot gas welders to meet a broad range of fabrication needs in compliance with German DVS plastic welding standards.

Our metal fabrication capabilities are equally robust. We operate Miller MIG and TIG welders, lathes, mills, and a Sabre CNC plasma cutter to handle intricate designs and tight tolerances. Key equipment includes a 90-ton Cincinnati press brake, Scottsman ironworker, and a Hydmech 10”x18” miter bandsaw with bundle cutting capacity.

For finishing, our 1,400-cubic-foot paint booth supports EPOXY painting. With 6 overhead cranes (5 to 20 tons), we ensure efficient material handling and assembly. Combining advanced technology with expert craftsmanship, we deliver customized solutions that exceed expectations in both plastic and metal fabrication.

YouTube

AUTOMATED PROCESS LINES

Palm Technology designs, fabricates, and installs fully automated plating lines engineered for long-term performance in the demanding conditions of plating environments. Our systems are built to endure and deliver consistent results.

We offer automatic plating lines with overhead, side-arm, and rail rider hoists, tailored to a wide range of substrates—from machined and cast metals to injection-molded plastics. Whether you're looking to plate barrels, racks, rotating fixtures, or baskets, our systems are designed for both decorative and functional plating applications across industries such as Aerospace, Automotive, Defense, and Medical Devices.

Built with a modular approach, Palm's automated systems integrate water, air, steam, cooling, and electrical cabling into compact, easy-to-install units. This design streamlines installation, ensures consistent quality, and minimizes startup time.

- Electroless and Electrolytic Plating
- Nickel, Copper, Chrome Plating
- Zinc and Zinc-Nickel Plating
- Plating on Plastics
- Chemfilm
- Etch Lines
- Passivation Lines

YouTube

AUTOMATED ANODIZING LINES

Palm is a leader in the engineering, fabrication and installation of automatic and manual Anodizing Lines. We use the highest quality materials and the latest technology to supply Anodizing Lines built to provide long term service in an industrial environment.

Anodizing is an electrochemical process to oxidize the metal surface increasing hardness, corrosion and wear resistance. Palm builds Anodizing Lines for aerospace, automotive, defense and industrial applications.

- Type I, Chromic Acid Anodizing
- Type II, Sulfuric Acid Anodizing
- Type III, Hard Coat Anodizing
- Boric Sulfuric Acid Anodizing
- Phosphoric Acid Anodizing

YouTube

Palm Technology can supply a complete automatic Anodizing Line or upgrade an existing line. Palm's modular design minimizes installation time, provides the customer with process flexibility and allows for the line to be easily expanded. We listen to our customers and will work with you to develop a solution that will provide you with the reliability and capabilities to meet your current and future requirements.

AUTOMATED CONTROLS

Since Palm's first Automatic Process Line in 1998, we have partnered with Aucos GmbH, the global leader in automatic plating line control software, to continuously advance our surface finishing automation capabilities. Together, we provide cutting-edge, PC with a PLC based control systems that offer unmatched flexibility and database storage. These systems support multiple hoists, ensure precise process control, and handle fixed, mixed-cycle, or priority part scheduling to meet the most demanding production environments.

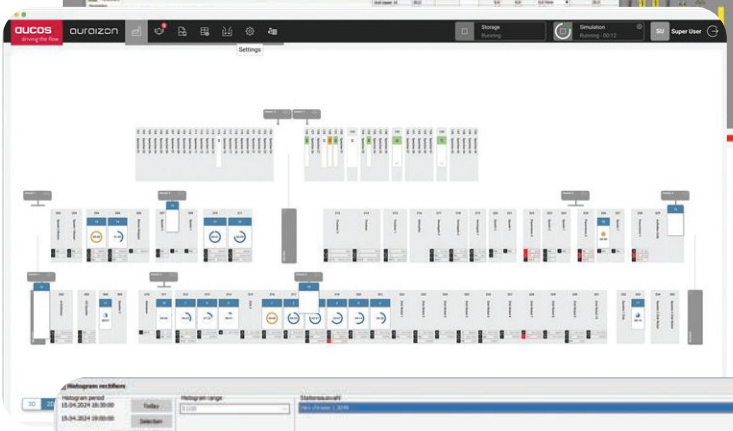
Automatic Control: Aucos control systems manage hoist movements, cycle times, and operating parameters on the process line, ensuring precise control and compliance with Nadcap and ISO standards.

Full Data Acquisition: The system offers comprehensive data acquisition and documentation capabilities, serving as a supervisory control and data acquisition system (SCADA), with integration for wastewater treatment and fume exhaust systems.

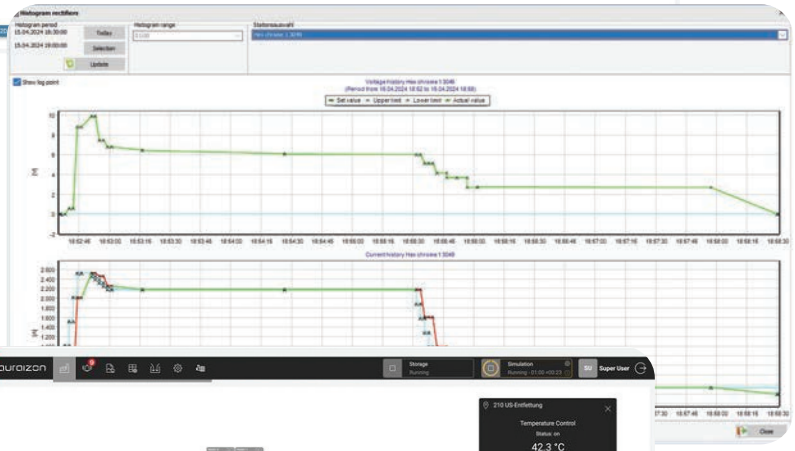
PC-Based Control: The PC-based control software handles multiple recipes simultaneously, allowing for efficient control, monitoring, recording, and alarms for individual tanks on the line.

PLC Controls: While the PC manages recipes, data acquisition, and hoist scheduling, the PLC executes all motion control, carrying out the PC's commands and operating the hoists. It also manages line safety and operating other line control devices.

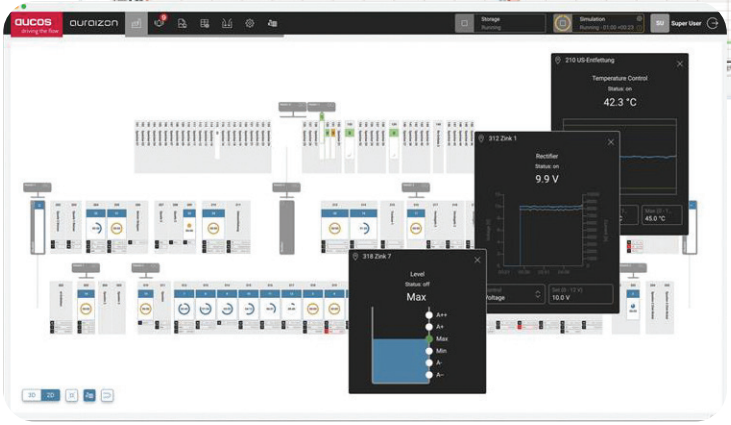
Hoist Operations: The system monitors and controls various functions, including overhead hoists, safety devices, load/unload stations, wet transfer shuttles, automatic covers, pumps, tank temperatures, levels, pH, conductivity, and rectifiers.



Fault Diagnostics: Fault diagnostics are displayed on the operator screen, indicating device malfunctions such as motor overloads, hoist faults, and emergency stop activation.



Software Features: Each load is defined by a unique number, with part recipes specifying process sequences, times, and parameters. Data acquisition records process conditions by load, including tank circulation, temperature, and rectifier output. Input to the automatic control system is password-protected, with customizable access levels for operators.



Reports: The software generates real-time information and customizable reports on production, operating conditions, and machine faults, meeting unique customer requirements for access and storage.

MANUAL LINES

Palm Technology are experts in high-quality manual process lines

With decades of experience, we specialize in the engineering, fabrication, and installation of high-performance manual process lines designed for long-term reliability in demanding industrial environments.

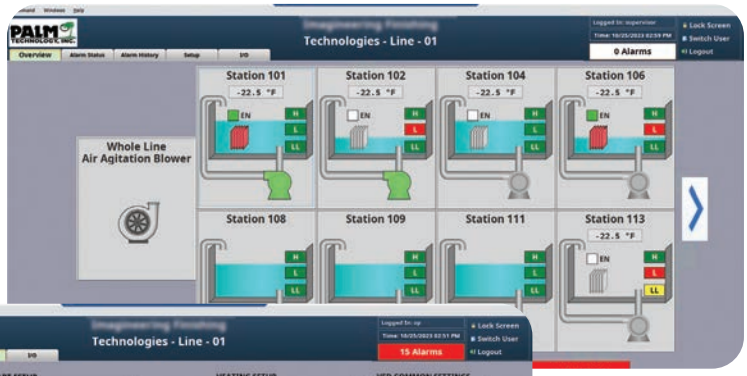
Our manual process lines are built with the highest quality materials and incorporate smart, durable design features to ensure ease of use, consistent performance, and flexibility for future expansion. Whether you're working with decorative or functional processes, Palm Technology offers manual solutions tailored to your specific process and production needs.

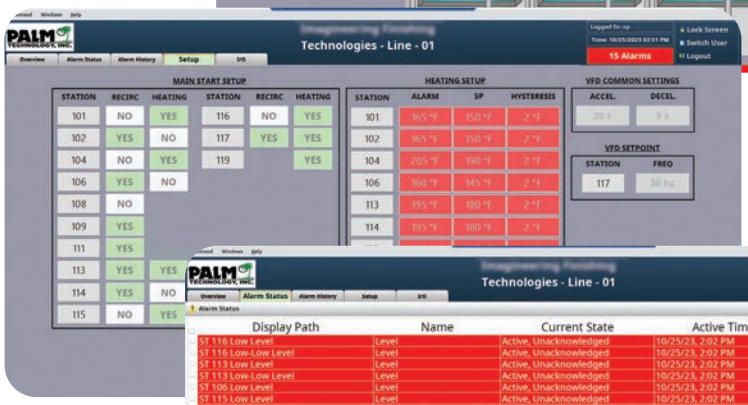
We provide manual barrel and rack plating lines for a wide range of industries, including Aerospace, Automotive, Consumer, Defense, Industrial, and Medical. Our equipment supports both electroless and electrolytic plating processes, anodizing, etching, chemfilm and passivation systems.

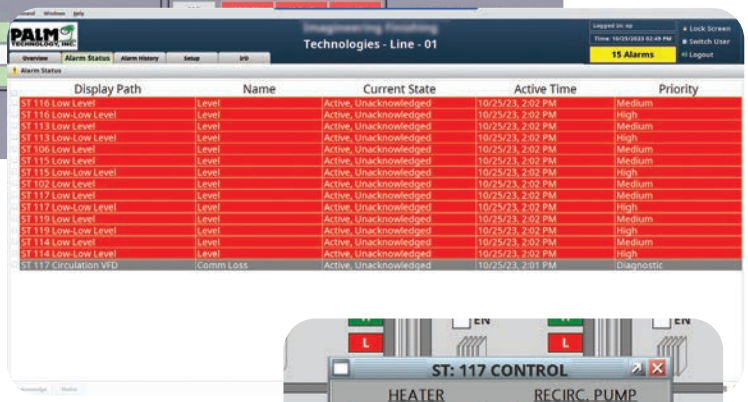
Palm's modular systems minimize installation time and are designed to adapt to changing production requirements. We work closely with our customers to develop custom manual plating solutions that deliver the reliability, control, and precision required to meet both current and future challenges.

MANUAL LINE CONTROLS

When full automation isn't required, Palm Technology offers a cost-effective, high-performance Manual Process Line Control System tailored to your operational needs. This solution is ideal for facilities seeking precision and reliability without the expense of full automation. It combines robust industrial tech with an intuitive interface, giving operators direct control and real-time feedback.

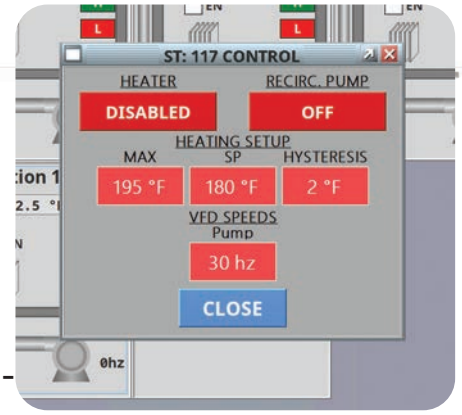






The system features a large-screen industrial touch panel integrated with a PLC (Programmable Logic Controller), offering a user-friendly interface to navigate system functions and monitor critical parameters. It provides centralized control over pump operation, tank temperature, and level management.

Integrated temperature sensors ensure precise thermal control in each process tank, maintaining consistency and quality. Conductivity and pH monitoring are included, with alerts or interlocks based on user-defined limits to maintain optimal chemical balance and plating efficiency.



Tank level sensors give visual and data-driven insights to prevent overflows or low-level issues. Pump control allows for simple management of chemical transfers, agitation, and filtration, supporting a seamless, safe workflow.

Palm Technology's Manual Plating Line Control System prioritizes performance and usability, delivering reliable, long-term operation with a simplified interface that reduces training time and builds operator confidence.

HIGH QUALITY TANKS

Palm Technology is a leading manufacturer of thermoplastic tanks in North America. Palm matches the application to the material. Materials of construction include homo and co-polymer polypropylene, PVC, CPVC and Kynar® as well as steel and stainless steel. Palm can build a single tank or an entire process line.

Palm welders are trained to the European DVS standards for plastic welding and we use the latest plastic fabrication equipment available allowing us to fabricate a robust tank that is that is built to last.

For cylindrical tanks, Palm can roll and butt weld polypropylene sheet 1/8” thick in a 16” diameter up to 1 1/4” thick in a 13-ft diameter.

When the chemistry requires, Palm can supply 304 or 316 stainless steel tanks as well as mild steel tanks. The stainless tanks are finished with a smooth, reflective, gray sheen and are custom built for the application.

Our facility includes a 1,400-cubic-foot paint booth, which allows us to apply high-quality epoxy coatings when additional chemical or environmental protection is needed. We also offer insulation and outer metal skinning for metal tanks to enhance thermal control and energy efficiency, making them ideal for temperature-sensitive processes.

From thermoplastics to metals, Palm Technology combines expert craftsmanship with cutting-edge equipment to deliver tanks that stand the test of time.

YouTube

ENTank™

Palm Technology's Electroless Nickel Plating System, ENTank™, is engineered for long service life with electroless nickel solutions and has set the industry standard since 1985. Each ENTank™ is delivered fully assembled and ready for operation.

Constructed from stainless steel or stress-relieved polypropylene, every ENTank™ is custom built with no configuration limitations. Palm's proprietary fabrication methods, though more costly than standard techniques, significantly extend tank life.

Each system includes a vertical pump, heat exchanger or electric heaters, filtration, and air agitation, complete with all necessary piping and valves.

The ENTank™ pump is specially designed to withstand the high temperatures of electroless nickel plating baths. Made from CPVC with a PVDF impeller and Viton head O-ring, it delivers durable, long-term performance.

Heating is provided by either an ENHeat™ external 316L stainless steel heat exchanger or 316L stainless electric immersion heaters. The ENheat™, mounted on the pump's discharge side, is a compact, high-efficiency exchanger operating at 10–15 psig steam pressure. It can bring a tank to temperature in as little as 2 hours. Digital temperature control is standard, and tanks with electric heaters include a level control for added safety.

ENBag™ offers a low-cost, efficient method for EN bath filtration. Available in various micron ratings, it includes a polypropylene bag holder and quick disconnect. ENBags™ can be installed immersed in the solution, in a well, or in a raised box outside the bath.

ENContol™

The Model 3300 is a state-of-the-art automatic controller for electroless nickel plating baths, designed to maintain bath strength within tight limits with minimal operator input. It's easy to use and adaptable for most electroless nickel solutions.

Featuring a 7" high-resolution widescreen touchscreen, the Model 3300 combines Palm's proven electroless nickel control technology with advanced features tailored for modern plating baths.

It continuously monitors concentration, pH, and temperature, automatically adding nickel and hypophosphite replenishers, as well as neutralizers, to maintain proper balance. The controller also tracks bath age, chemical usage, remaining volumes, and other data to support cost monitoring and profitability analysis.

Analysis results can be transmitted to a PC via Ethernet, USB Flash Drive, or RS-232 serial port. With optional ENCollect software, users can apply statistical process control and generate product certification. Programmable audible alarms alert operators to out-of-limit conditions.

The Model 3300's custom-designed microprocessor ensures precise control, flexibility, and advanced recordkeeping. It prompts the user for needed inputs and allows full adjustment of set points, alarms, bath volume, concentrations, and sampling/addition schedules—easily adapting to changes in bath chemistry or volume.

ENHeat™

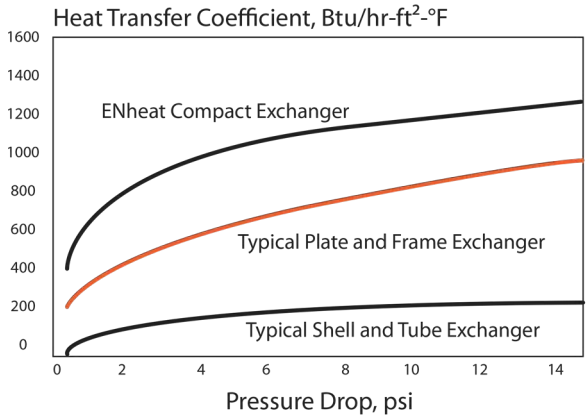
The ENHeat™ is a compact, lightweight heat exchanger made from Type 316L stainless steel with a patented enhanced surface that delivers high heat transfer rates with minimal pressure drop. Typically one-third the size and weight of comparable shell and tube or plate coil units, ENHeat™ is ideal for heating electroless nickel plating solutions and other heating or cooling plating applications.

Despite its small size, ENHeat™ achieves pressure drops equal to or lower than shell and tube exchangers, while transferring heat at up to five times the rate. With pressurized hot water, heat transfer coefficients range from 600 to 1200 BTU/hr·°F·ft², making them equally effective for cooling.

Its efficient, compact design requires less material and reduces overall system costs. Smaller size also saves floor space, lowers installation costs, and improves thermal response by holding less fluid volume. When mounted horizontally, ENHeat™ units drain completely.

Built with all-welded construction and no gaskets, ENHeat™ is durable and leak-resistant. Made from a single metal, it avoids bimetallic corrosion found in brazed exchangers.

Comparison of the Efficiency
Of Different Types of Heat Exchangers



Model	Transfer Area ft2	Connection Size	Capacity, lbs/hr of steam	Weight, pounds
4x4-14	1.6	0.75	105	8
4x8-14	2.9	1.25	300	13
4x12-14	4.4	1.25	300	19
4x18-14	6.6	1.50	410	26
4x18-20	9.4	2.00	675	42

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