Continuous improvement

Jessup Systems was formed in 1971 to manufacture programmable hoist systems for the metal finishing industry. They have proven to be the most flexible, reliable, and efficient motion control platforms available for immersion processing applications.

Jessup has grown to become a turn-key system provider, integrating hoist automation with material handling, ventilation, wastewater treatment, heating and cooling, support equipment, and installation.

In-house electrical, mechanical, and controls engineering departments continuously refine Jessup designs, delivering the most technically advanced, yet user-friendly systems available. Our customers have proven the soundness of our designs on their manufacturing floors.

Experience, practical engineering, quality workmanship, and dedication to customer satisfaction have earned Jessup Systems a reputation for building the most environmentally sound and competitive finishing systems on the market.

 Demonstrated experience includes:

- Single or multiple hoists to 15,000 lbs capacity
- Poly, fiberglass, steel, and stainless steel process tanks
- Automated barrel loading and unloading systems
- Weigh-in or weigh-out vibratory feeders and scales
- Noise abatement enclosures
- Full machine ventilation enclosures
- Automatic positioning load systems
- Automatic barrel cover handling
- Powered wet or dry transfer shuttles
- Programmable in-tank rack agitation
- Programmable in-tank and up-barrel rotation
- Tank rim air knives and in-line blow down cells
- Full tank and halo spray systems
- Air, pumped, and mechanical agitation
- Centrifugal, in-line, and off-line dryers
- Engineered in-line barrel and rack dryers
- Fully integrated in-line bake ovens
- Fully automated rack/barrel storage and retrieval
- Light beam, light curtain, and interlocking gate operator safety devices
- Intuitive, self-diagnostic, web accessible touch screen controls
- Automatic bar code, electronic file, or manual keypad input capable
- Programmable immersion times and plate cell rectification settings
- Touch screen machine control with up to 10,000 recipe capacity
- Non-contact linear encoder, laser, and cam plate hoist positioning
- Wireless remote operation for manual mode improves operator safety
- Cable carriers provide quiet operation, improved durability, and machine aesthetics
**TOUCH CONTROL**

Intuitive touch screen
An intuitive touch screen HMI/PC/PLC is the heart of every Jessup machine. It displays system overviews, recipe options, hoist programming, load/unload monitoring, process functions, load tracking, fault diagnostics, and pre-programmed maintenance schedules. The support section may also include storage of drawings, schematics, and operations manuals.

Performance monitoring
Performance monitoring includes shift reports for total time and cycles, automatic vs. manual operation, load/unload delay, and fault data. To speed correction of unexpected stoppages, the control system provides system diagnostics. Detailed screens display fault location and actions needed to quickly restore production. Internet based remote monitoring expedites troubleshooting and repairs.

Quick scan input devices
Quick scan input devices typically include bar code or RFID technology. Control systems are configured to provide CSV load-by-load output data, exported for interface with quality and business management systems through Ethernet communications.

Overview screen with optional multi-lingual capability

Process controls include:
- Rectification
- Chemical feeds
- Mechanical solution and/or work bar agitation
- Ultrasonic cleaning
- pH and conductivity
- Rinse water conservation
- Tank level and temperature

Control features include:
- Intuitive touch-screen HMI/PC/PLC machine controller
- Recipe-based engineered batch, mixed, or random cycling
- Embedded part recognition images or graphics
- Load-by-load CSV data storage and export
- Optional multi-lingual operation screens

Central temperature monitoring and control

Template for creating new part recipes

Rectifier monitoring and control

Barrel rotation or oscillation control

Self-diagnostic feature directs problem resolution

Pistol grip bar code scanner
The industry standard
Jessup Engineering built a reputation for delivering extremely rugged, reliable, and cost effective barrel finishing machines. Major components including hoists, track, frame, load/unload equipment, barrels, dryers, and controls are built in-house by skilled craftsmen.

Polypropylene Barrel Technology
- High capacity one-piece cylindrical shell design
- Tongue and groove welded construction
- Integrated fusion welded tumbling ribs
- CNC drilled or slotted perforation patterns
- Knob or inside-out style load locker covers
- Single point drive and high pressure cathode contact

Inside-out Load Locker quick change barrel covers ease operator workload. Knob style Load Locker covers offer conventional barrel closure.

Customer selected perforation options

High volume return-style barrel plating

Push-pull ventilation

Fully enclosed push-pull ventilation with canopy assist

Barrel Systems
Coating Barrel Technology

- High capacity one-piece cylindrical shell design
- Steel, stainless steel, Alloy 20, polypropylene
- Integrated tumbling ribs
- Automatic and manual tab lock, spring latch, and nut lock covers

Precision handling
Jessup technology extends to phosphate and e-coating machines, where oscillating or rotating baskets may be used. Dip-spin and mechanical plating are among the long list of fully integrated system options.
**Unmatched technology**

Jessup systems include numerous ferrous, non-ferrous, and plating-on-plastic rack plating and coating systems. Full length non-contact linear encoders coupled with variable frequency drives enable smooth, virtually sway-free operation and precise positioning for even the largest rack systems. In-line automatic rack storage and retrieval is an increasingly popular option for large rack systems.

- Integrated indexing conveyors offer remote load/unload
- Encoders offer smooth transfers and flawless positioning
- Ultrasonic look-down sensors for error-free load placement
- Cable carriers for maximum durability
- Load carts maximize plant and operator flexibility
- Tipping rack hoist with programmable drip tray
- High volume plating system with hoist serviced load/unload stations
Gentle hand-offs
Jessup technology includes single and twin basket oscillating chromate coating and centrifuge drying systems. Top and bottom grip stainless steel baskets allow fully inverted unload capability. Material handling equipment is lined to minimize part damage.

Work is processed through reversible automatic centrifuge dryers designed to deliver high production volume with minimal part damage.

Basket coating and drying features are often integrated into fully automated plate, bake, and chromate systems with load-by-load part traceability.

Features include:
- In-tank basket oscillation
- Lined transfers for gentle handling
- Rotate-stop-reverse control available
- Steam, gas, or electric heat options
- Fully inverted unload rollover
**Extensive range**

With over 700 systems and countless conversions installed, the Jessup Engineering team has accumulated tremendous experience integrating a sophisticated array of mechanical, hydraulic, pneumatic, electric, and electronic components. We believe in long term customer focus, exacting quality, and on time start-up. These results are achieved through efficient in-house mechanical, electrical, and controls engineering, coupled with timely installation and field service.

To learn more about Jessup Engineering products and to see more images, please visit us at [www.jessupengineering.com](http://www.jessupengineering.com), or call 248-853-5600.