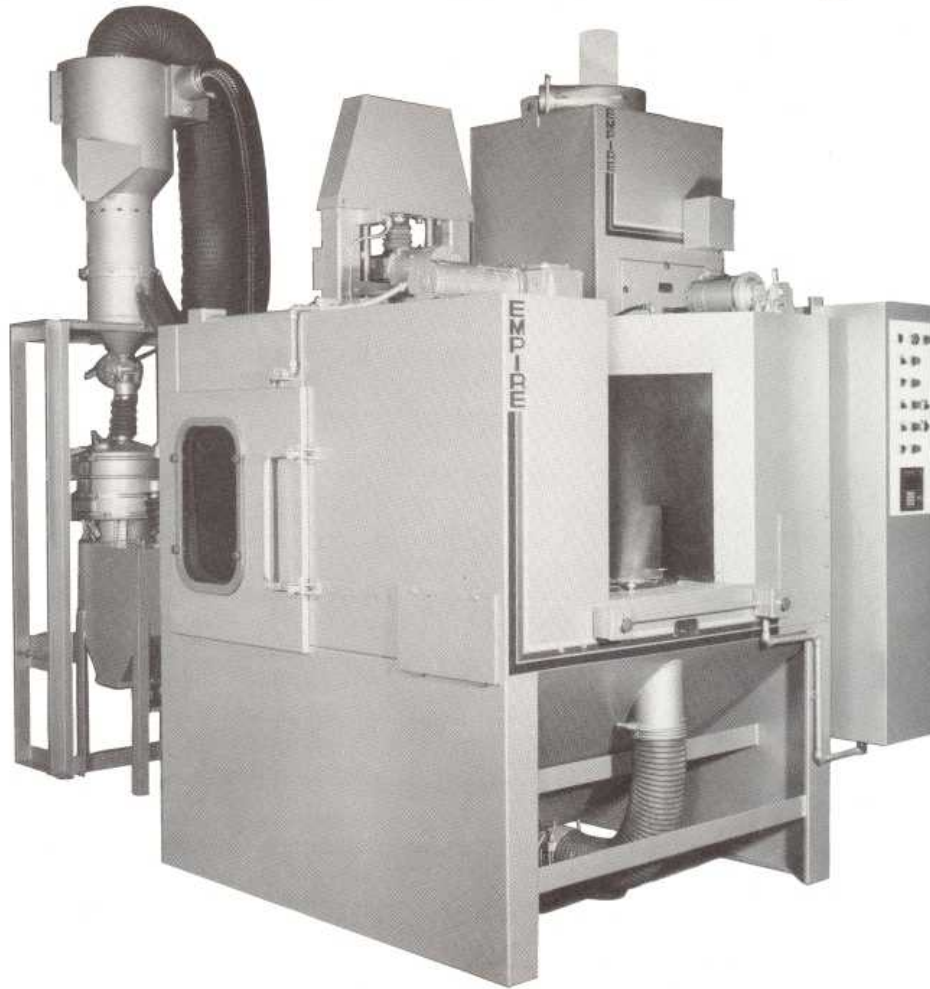


Modular Turntable Systems

A standardized approach
to automated blast finishing



EMPIRE

Abrasive blasting: Our specialty

Abrasive blast finishing is our specialty. As a leader in the field with more than thirty-five years of experience, Empire has developed a complete line of standardized turntable systems that automate the blasting process.

We have designed and produced many types of turntable systems, ranging in sophistication from indexing and continuous running turntable cabinets to computer controlled systems that have been fully integrated with other production processes. Today, these turntable systems are being used to descale, decorate,peen, etch, deflash, deburr, clean and finish parts and products in major industries throughout the United States with users enjoying major increases in productivity; many customers report gains of between 100 and 700 percent. In addition, companies using our systems can point to enhanced product quality

resulting from the greater repeatability inherent to automated blasting.



Empire headquarters in Langhorne, Pennsylvania, where the company engineers and manufactures a complete line of blast finishing equipment.

Field-proven, multi-purpose systems

Empire's modular turntable systems represent a standardized approach to automated blast finishing. Today, in fact, these systems can be set up to perform almost any type of blasting operation on almost any type of part.

Our most basic turntable systems consist of a cabinet enclosure, pressure or suction nozzles, dust collector, and an indexing turntable, which can be easily adapted for automatic loading and unloading of workpieces. These units include fixed, oscillating or rotary nozzles that pro-

vide uniform coverage on all exposed part surfaces.

Indexing turntables feature multiple workstations where parts can be mechanically rotated and consistently repositioned to achieve required blast coverage. By combining multiple workstations with part and nozzle movement, our more sophisticated indexing turntable systems are capable of performing a variety of intricate finishing tasks on workpieces during a single pass through the system.

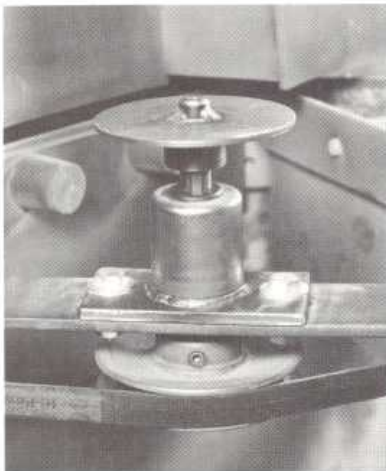
Built for superior performance

All key components in Empire turntable systems are our own, meaning they've been designed specifically to withstand the rigors of abrasive blasting. The many options we offer with our turntable systems are factory tested and field proven, insuring trouble-free performance.

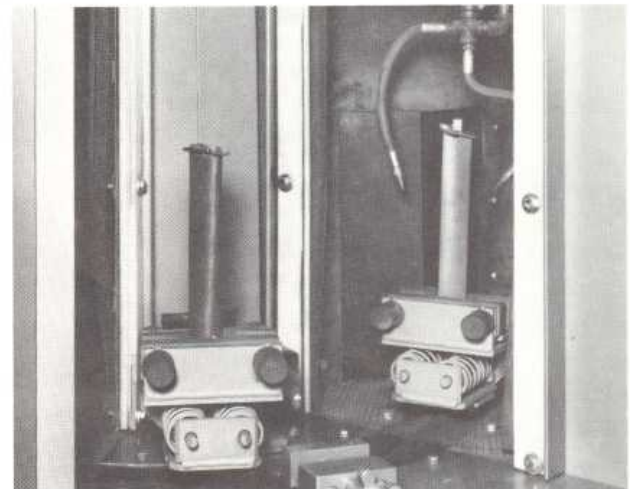
All Empire turntable systems are built to withstand the rigors of harsh media such as aluminum oxide, silicon carbide and steel grit. The systems are equipped with a harsh media package consisting of a neoprene-lined reclaimer, wear plate, heavy-duty urethane conveying duct, lined cabinet interior and tungsten carbide nozzles.

When maintenance is required, our systems allow easy access to all components, which means less downtime and lower labor costs. Realizing system performance is critical to your operation, Empire will respond to your needs for service and support before and after installation. Empire's Engineered Systems Group is staffed with professionals capable of providing solutions to your blast finishing problems.

No other automated turntable blasting system on the market today can compare to Empire's in terms of versatility and value.



Empire's unique design for bearing assembly provides trouble-free part handling, less maintenance and long wear life.



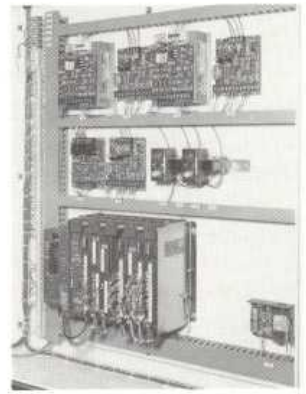
Rotating parts stations with various fixturing methods position the part within the blast stream for optimum coverage.

Standard components and options

A cabinet enclosure, reclamation system and turntable are central to Empire's modular automated concept. As can be seen from the accompanying callouts, Empire is able to build on these basic components with optional equipment to produce turntable systems capable of meeting a wide variety of finishing requirements.

Dust collection systems that comply with our application requirements. Tubular bag and cartridge type collectors are available with continuous cleaning option. (Not shown.) Equipment can also be interfaced with your existing dust collection system.

Versatile controllers that will monitor and document key operating parameters, such as processing times and air/abrasive flow rates, and can be easily reprogrammed to process different types of workpieces.

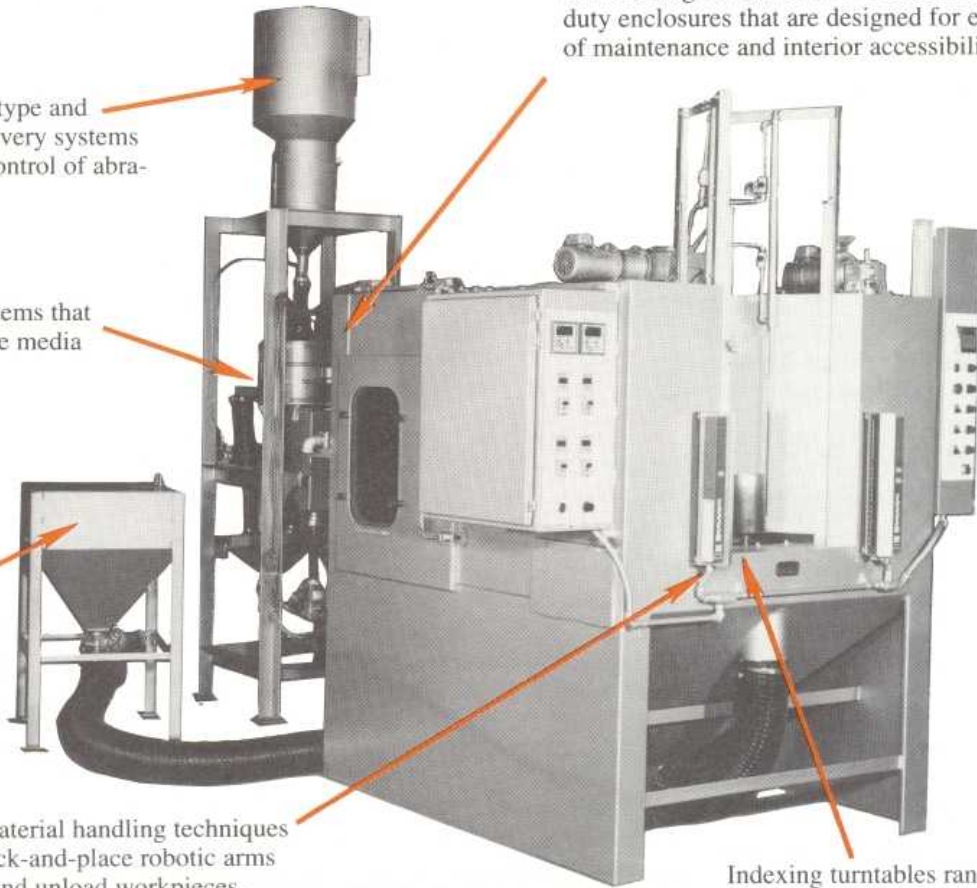


A wide range of standard and custom heavy-duty enclosures that are designed for ease of maintenance and interior accessibility.

Pneumatic centrifugal type and mechanical media recovery systems that can be tuned for control of abrasive particle size.

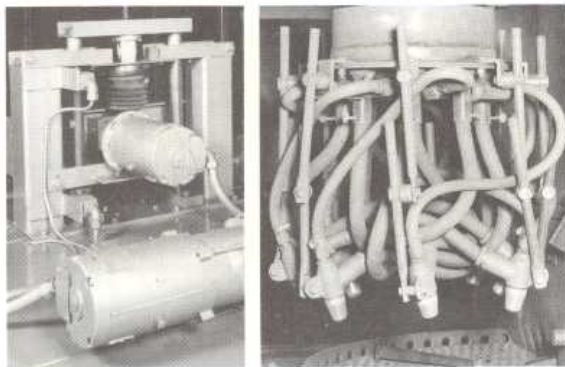
Shot classification systems that assure accurate, precise media separation.

Automatic media make-up hopper.



Various material handling techniques such as pick-and-place robotic arms that load and unload workpieces.

Indexing turntables ranging from 18", 36" and 48" can be provided as a standard. (Larger sizes available.)



Nozzles that oscillate on one or two planes, either pneumatically or by ball screw drive, or that can be programmed for X and Y axis movement to include pitch and yaw or rotary motion.

Suction, intermittent pressure and continuous action pressure systems with solid-state controls. Shot and grit flow monitors assure accurate media flow resulting in consistent arc heights and surface profiles.



Turntable system features and options

BLAST ENCLOSURE

Standard Features

- 11-gauge continuously welded construction
- Two large access doors with dual point latching and safety switches
- Large viewing window
- Two interior work lights
- Blast enclosure lined with replaceable ¼"-thick neoprene curtains
- Tungsten carbide blast nozzles
- Part openings, 24" high × 13" wide
- Individual gun mounts with universal positioning
- Part blow-off station in exit vestibule
- Individual gun shut-off valves
- Easy access to all drive components
- Fork truck pick-up points

Options

- ¼"-plate cabinet construction
- Boron carbide blast nozzles
- Vertical and/or horizontal oscillation—pneumatic or ball screw drive, coordinated motion
- Rotary nozzle system
- Robotic nozzle controls
- *Safety floor mats
- *Vertical powered vestibule doors
- Sound abatement material for enclosure
- Infrared curtain for safe, automatic index

DUST COLLECTOR

Standard Features

- 14-gauge modular construction
- Large access door for maintenance
- Large capacity collection hopper with height adjustment for ease of waste removal
- Totally enclosed motor with blower mounted on clean air side of dust collector
- Automatic pneumatic bag shake assembly

Options

- Cartridge type collection system
- Reverse pulse type collection system
- Outside installation package
- Totally enclosed waste removal controller
- Special dust bags for heavy dust conditions
- *Static pressure monitor
- *Fan silencer

*Strongly recommended for most applications

Other Empire products

- Blast rooms
- Pro-Finish® and Econo-Finish® blast cabinets
- Basket blasters
- Pneumatic recovery systems
- FaStrip™ plastic media systems
- SuperBlast® portable units
- A complete line of parts and accessories

MATERIAL HANDLING

Standard Features

- Six-station indexing turntable
- Three rotating stations within blast area
- 20 lb. capacity for each station
- Unique part rotation assembly for extra long life
- Automatic tensioner for part rotation belt
- Indexer and part rotation drives mounted on top of blast chamber to prevent media contamination
- Variable speed part rotation stations

Options

- Continuous table with urethane-coated structurals and ½" or 1" gum rubber lining
- Automatic load and unload equipment
- Fixturing

RECLAIMER

Standard Features

- Centrifugal type tunable reclaimer with 12-gauge welded construction
- Heavy-duty conveying duct constructed of ⅜"-thick urethane, wire reinforced
- Four-cubic-foot media storage hopper with large removable screen
- Rubber-lined reclaimer body with exterior wearplates

Options

- Vibratory screener assembly for grit and shot classification
- Pressure blast systems—single chamber or continuous action
- Automatic media make-up hopper
- Solid urethane conveying duct

ELECTRICAL

Standard Features

- Dual hand button indexing controls
- NEMA 12 dust type enclosure and controls
- Easy-to-read control panel
- Accurate solid-state blast timer and controls

Options

- Custom electrical requirements for special applications
- Programmable or CNC controllers
- Digital or analog readouts
- Shot and grit flow monitors

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Engineered Systems Group

EMPIRE

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