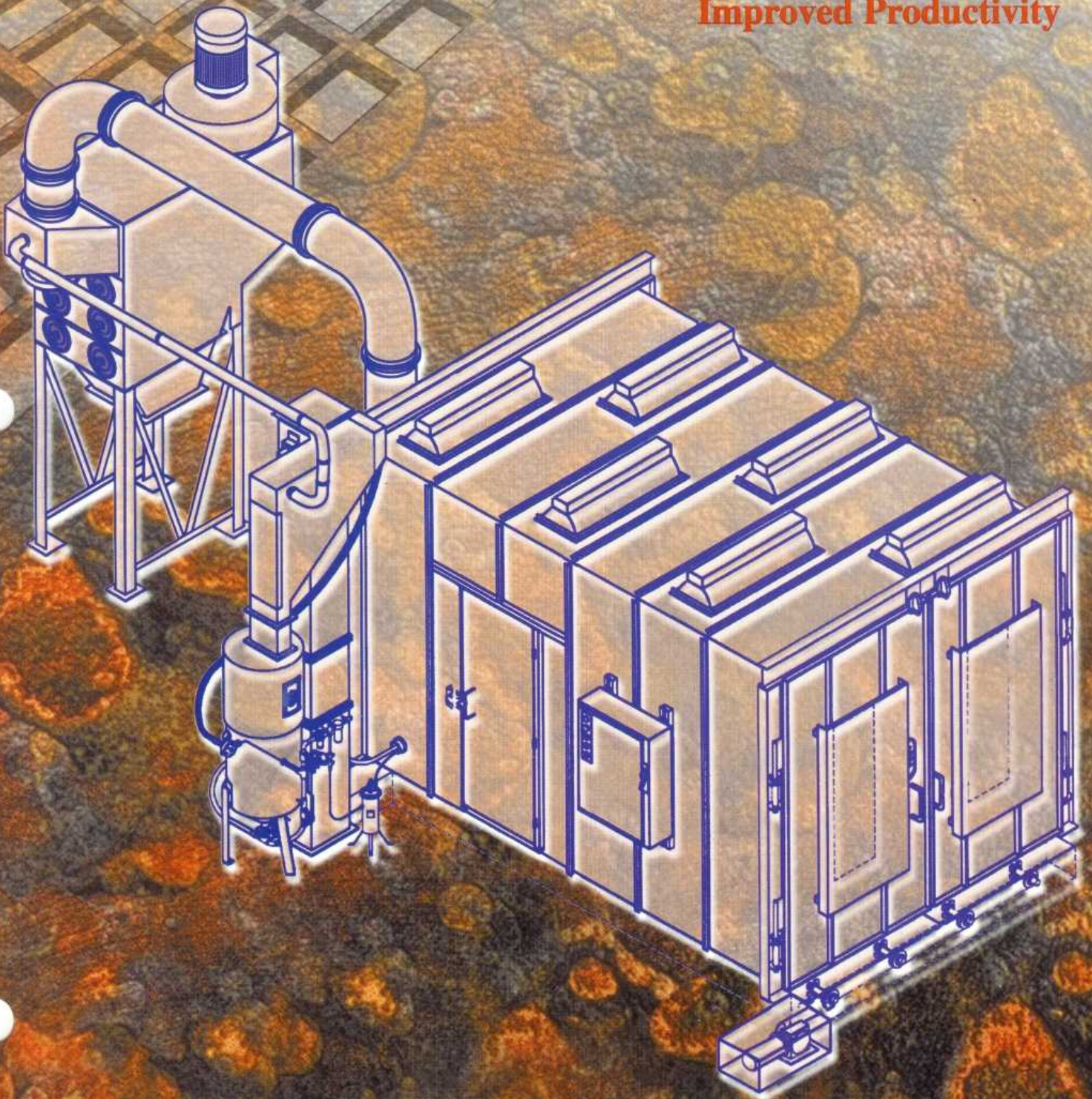


# **EMPIRE**

## **BLAST ROOMS**

**Quality Engineered for  
Environmental Safety and  
Improved Productivity**



## EMPIRE: A LEADER IN AIR-BLAST TECHNOLOGY FOR OVER 50 YEARS

Air-blasting equipment is our specialty. As a leader in the field, with more than fifty-years experience, Empire has developed a complete line of pneumatic blasting products including portables, cabinets, automated systems and rooms. In the process, we've designed hardware (such as air-wash and cyclonic media recycling systems, and patented features like our Sure-Flo® media regulator and Saf-Stop II™ control handle) which put our equipment ahead of the competition in terms of safety and performance. At the same time, our engineering staff stays abreast of evolving customer requirements to meet the challenges presented by a progressively more demanding marketplace.

When you buy a blast room from Empire, you can count on the fact that it's *furnished* to improve your blasting operations and boost your profits.

### ENVIRONMENTALLY SAFE

Air-blasting eliminates many of the environmental problems and costs associated with chemical finishing because you don't have to manage or dispose of dangerous liquids.

An Empire blast room provides even greater potential for improving safety and reducing operating costs when you're cleaning, finishing or surface-profiling large work pieces. With the process contained in a specially designed enclosure, blast media and debris are segregated from the external environment. And the operator, equipped with Empire safety gear, is fully protected.



Empire Abrasive Equipment Company, headquartered in Langhorne, Pennsylvania, specializes in the development and production of abrasive blasting systems.

### COST EFFECTIVE

A typical Empire room will pay for itself in less than a year through recycling of media. When "low-cost" abrasives such as sand or slag are used, you have to purchase large amounts of media and get rid of equally large amounts, some of which may be considered hazardous. By relying on a blast room, which recycles blast materials, you can move up to media with breakdown rates of lower than 5% per cycle versus the 100% loss of slag or sand.

The example below shows how quickly an Empire blast room can pay for itself. An empty grid to the right is offered so you can make your own comparison.

### HOW MUCH CAN A BLAST ROOM SAVE FOR YOU?

<b>Sample Cost Comparison</b>			
(Based on 5,000 lb media use per day)			
	<b>CONVENTIONAL</b>	<b>ROOM</b>	<b>SAVINGS</b>
	<b>With Silica*</b>	<b>With Steel Grit</b>	
	(100% Breakdown)	(5% Breakdown)	
<b>Media</b> (cost/lb X breakdown rate X lb)	\$ .06/lb X 100%	\$ .30/lb X 5%	\$225.00
<b>Clean up</b> (Man hours at \$25 per)	\$25 X 4 hrs	\$25 X 0.2 hrs	95.00
<b>Disposal</b> (Based on \$1 per thousand lb)	\$5.00/cycle	\$1.00/cycle	4.00
<b>Extra electrical</b> (For automated recycling—440V, 11.9A)	0	\$5.40/cycle	-5.40
<b>TOTAL PER-DAY SAVINGS</b>			<b>\$418.60</b>

<b>Your Cost Comparison</b>			
(Based on your media use per day)			
	<b>YOUR SYSTEM</b>	<b>ROOM</b>	<b>SAVINGS</b>
	<b>With?</b>	<b>With?</b>	
	(Breakdown%?)	(Breakdown%?)	
<b>Media</b> (cost/lb X breakdown rate X lb)	_____?	_____?	_____?
<b>Clean up</b> (Man hours at \$? per)	_____?	_____?	_____?
<b>Disposal</b> (Based on \$? per thousand lb)	_____?	_____?	_____?
<b>Less electrical</b> (For automated recycling at power required)	_____?	_____?	_____?
<b>TOTAL PER-DAY SAVINGS OR LOSS</b>			_____?

\*Silica sand is not to be used in any Empire blast equipment.

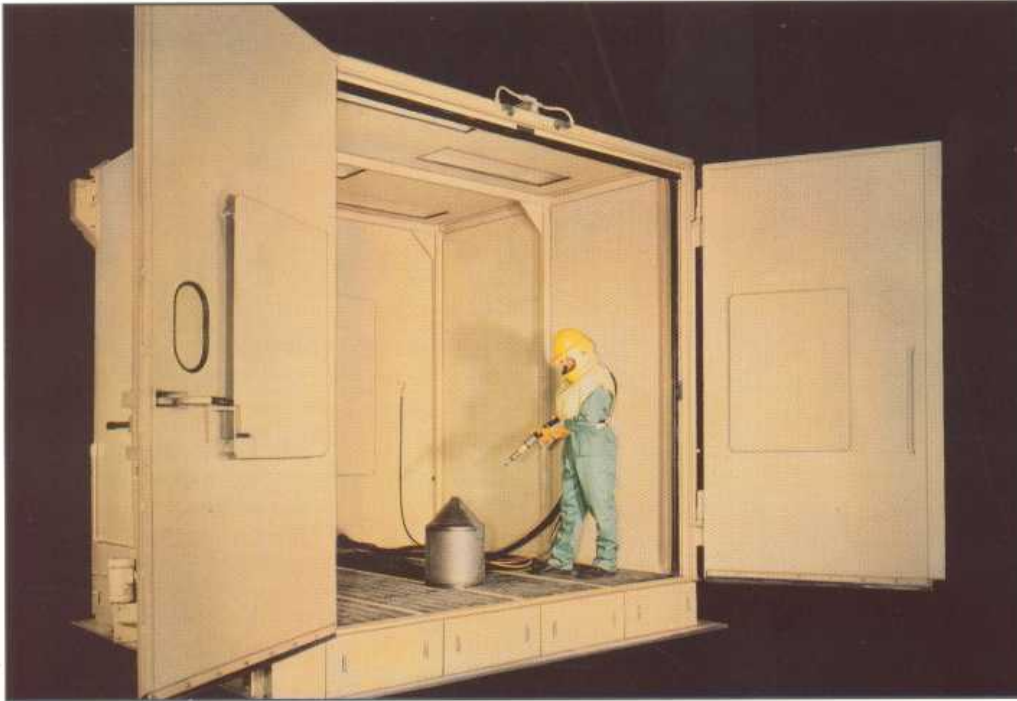
## BLAST-ROOM FACILITY

If you have special requirements, Empire's sales and engineering staff will work with you to develop a top-quality system for your specific needs. With more than 50 years' experience producing air-blast equipment, we have the technical and manufacturing resources to do the job right.

Empire offers two types of blast-room enclosures (Package and Field Erected) in a wide variety of configurations. Once you've decided which type is best for your operation, our engineering department will customize your room using standard Empire components.

The field-proven hardware we can draw upon includes pneumatic recovery systems, bucket elevators, cyclonic and air-wash reclaimers, sweep chutes, shovel chutes, vibratory and screw floors, ventilation systems, pressure vessels, blast controls, safety equipment—everything required, in other words, to assure your Empire room operates safely and smoothly.

On the following pages, you'll find some examples of the components and capabilities we bring together in assembling a room.



### PACKAGE BLAST ROOM

*Package blast-room enclosures are available in a variety of sizes. These enclosures feature #11-gauge wall/ceiling panels and fully welded construction. Package rooms require minimal set-up and normally can be installed and running within a day.*



### FIELD-ERECTED BLAST ROOM

*Field-erected room enclosures are available in standard configurations up to 30' wide, 20' high, with no limit to length. These enclosures feature bolt-together construction with #11-gauge wall panels and #14-gauge ceiling panels. Although this type of construction increases set-up work, it offers advantages in terms of lower shipping costs and greater design flexibility.*

## THE RIGHT RECOVERY SYSTEM FOR YOUR PRODUCTION NEEDS

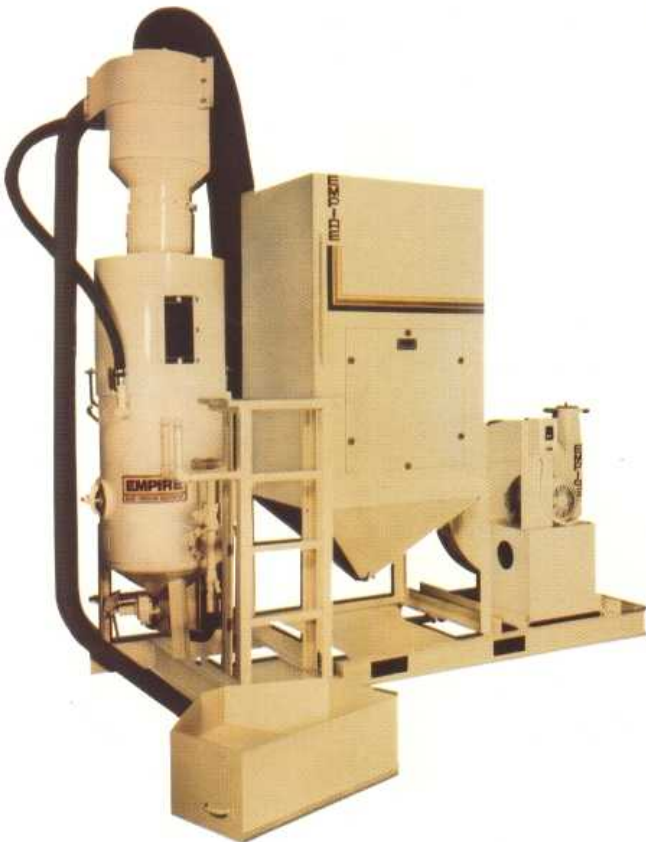
Empire offers a full spectrum of media-recovery systems to meet almost any application requirement. These range from our economical pneumatic recovery system (PRS) to configurations incorporating full-recovery floors.

The PRS, which employs the same type of cyclonic reclaimer as our Pro-Finish® production cabinets, can be used alone or in conjunction with a vibratory or screw floor.

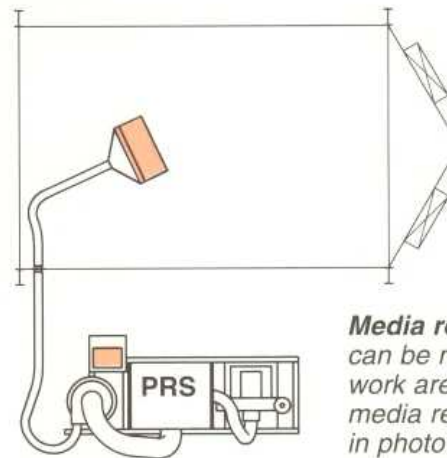
When using the partial or full floors shown on the facing page, however, mechanical reclamation is the more

common approach. Consisting of a bucket elevator and media air-wash, these mechanical systems can recycle a large volume of media quickly regardless of whether it's introduced through a sweep chute or full-floor designed for nonstop production. Empire floors can be adapted to an existing enclosure or one you build on site.

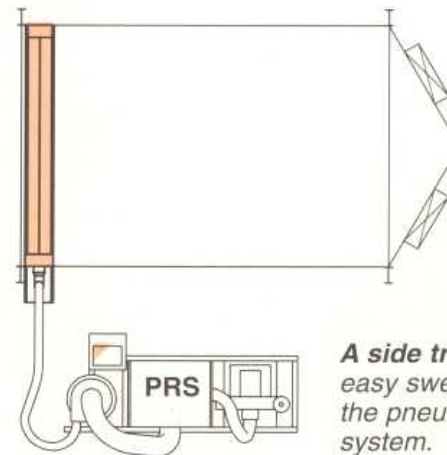
With Empire, you can select the system that's right for you and be confident we'll help you make the best choice.



**PRS system** offers an economical alternative to a full blast-room for limited-use operations. In addition to pneumatically collecting media, the unit recycles and cleans abrasives through a cyclonic reclaimer attached to a media-filtration system.



**Media recovery hopper** can be moved around work area for easy media retrieval. (Shown in photo to left.)



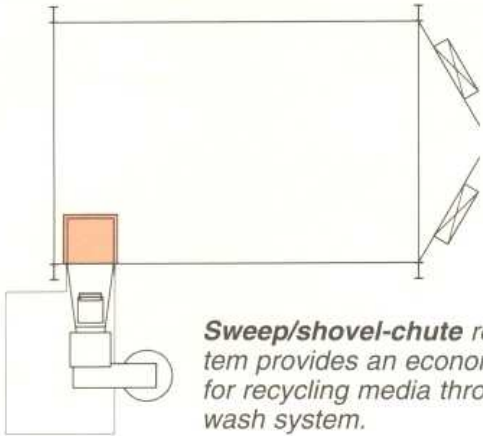
**A side trough** permits easy sweep-in delivery to the pneumatic-recovery system.

## RECOVERY FLOORS: FROM SIMPLE TO SOPHISTICATED

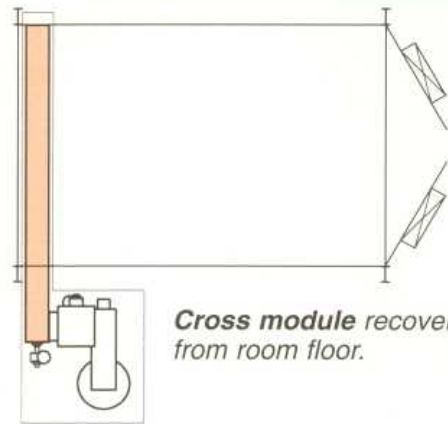
Empire can provide recovery floors to meet almost any set of budget and production requirements. The sweep-chute floor shown below, for instance, delivers the economic and environmental benefits of media recycling at a modest cost.

In higher volume applications where both production speed and labor costs are important considerations, you can select the type of floor (vibratory or screw-type) and degree of sophistication best suited for your operation. Our partial floors are available in single cross-module

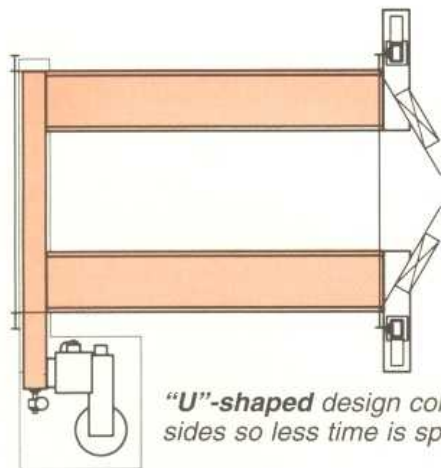
and U-shape designs. If you require a larger work area, the U-shape, which retrieves media from both sides of the room, can be expanded into an H configuration. Likewise, our full recovery floors, which eliminate the need for sweeping, can be expanded in modular fashion to handle work pieces of almost any size.



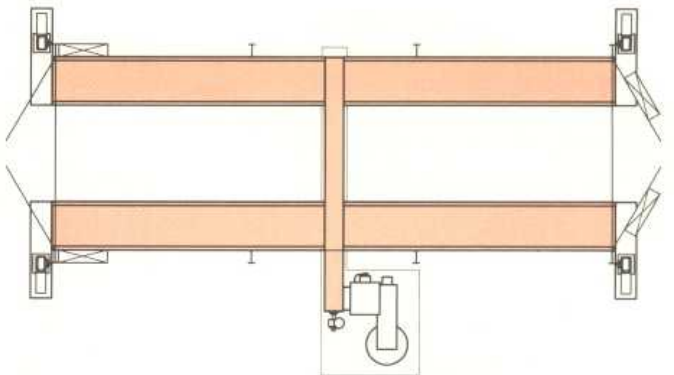
*Sweep/shovel-chute* recovery system provides an economical method for recycling media through the air-wash system.



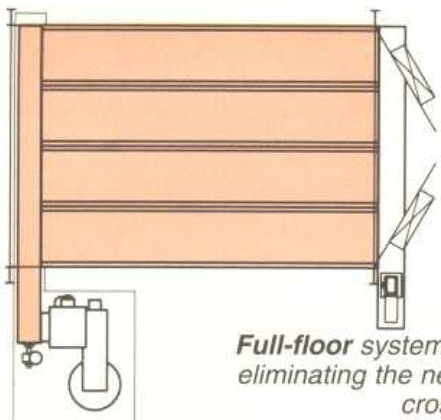
*Cross module* recovers media from room floor.



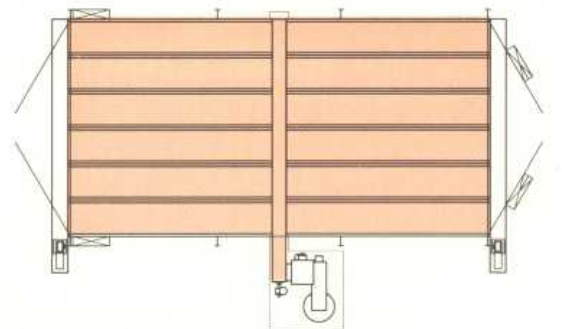
*"U"-shaped* design collects from both sides so less time is spent on sweep in.



*"H" configuration* doubles the floor area available in a "U" arrangement.



*Full-floor* systems retrieve media more quickly and reduce labor costs by eliminating the need for manual collection. Floors exceeding 30' feature a cross module centered between two modules.



## A FULL RANGE OF FIELD-PROVEN COMPONENTS AND OPTIONS

With an Empire room, you can select from a range of proven hardware for media conveyance and reclamation. In addition, we offer many accessories and options designed to maximize productivity in the context of different working environments.

In other words, a room consisting of standard Empire components will meet most application requirements economically.

Rooms are ventilated with a long-lasting, easily maintained **Cartridge-type dust collector** (shown). Lower-cost **Baghouse collectors** are also available.

**Bucket elevator**, with rugged PVC-dacron belting, lifts media from floor level to the reclamation system.

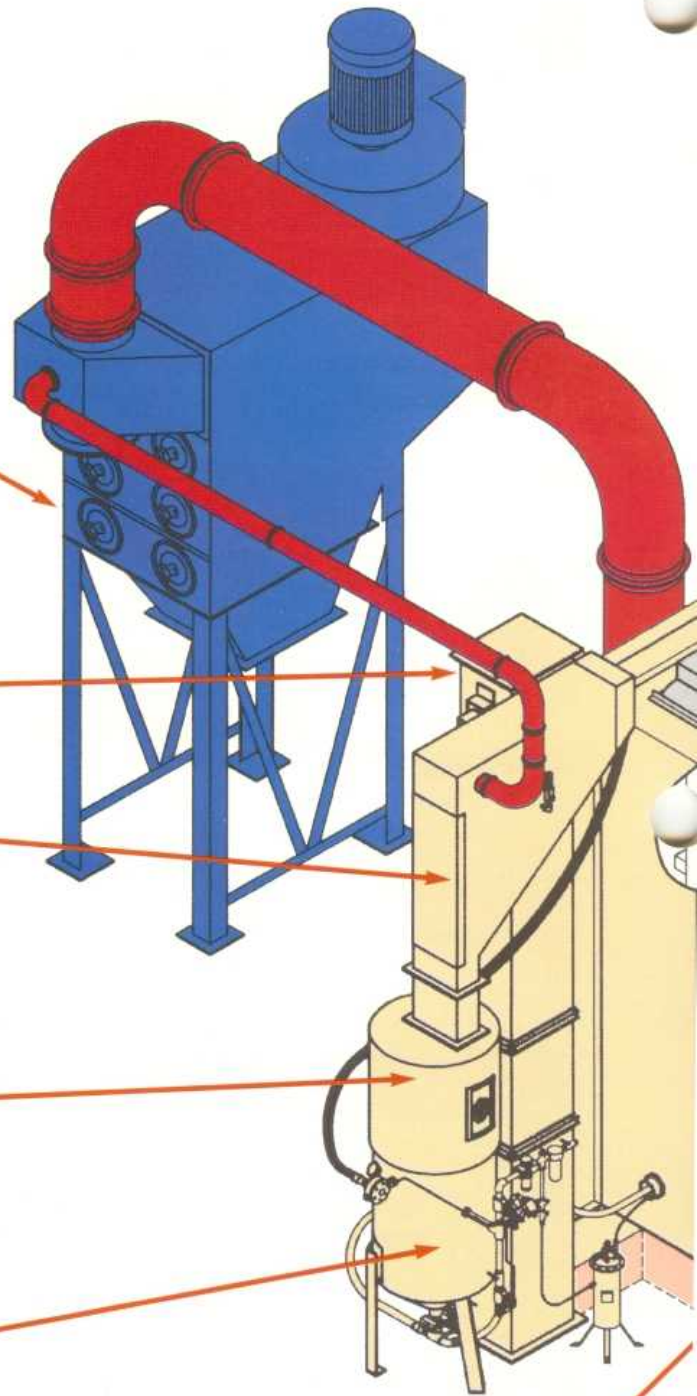
**Media air-wash** removes oversized particles and dust from the blast cycle while returning good media to the storage hopper for reuse. **Cyclonic media reclaimers** replace the air-wash in some recovery systems, such as Empire's PRS.

Media is normally stored in a **Cylindrical hopper** sized to and mounted on the pressure vessel for automatic gravity refills. A higher-capacity, **Free-standing hopper** can be substituted to lengthen operating cycles when a partial recovery floor is used.

A.S.M.E.-approved **Pressure vessels** offer 6-1/2 or 10-1/2 cubic-foot capacity and a 1-1/4" pipe string to provide ample air flow when optional second outlet is required.

OSHA-approved, **Man-access door** is equipped with panic hardware and can be conveniently positioned along either side wall.

**Electrical controls** are installed in NEMA-12 enclosures and prewired for easy hookup.

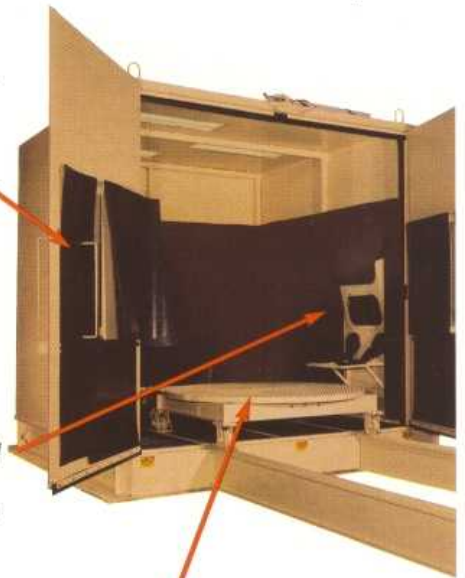


## Options

**Rubber curtains** can extend room life, particularly in harsh-media applications.

**Fluorescent lighting**, protected by clear lexan panels, provides excellent illumination and can be replaced easily from the top of the room.

**Exterior work station**, with gloves and viewing window, provides an efficient method for occasional blasting of small parts from outside the room enclosure.



**Work carts, Turntables and Overhead monorail beams** are just a few of the options Empire offers to simplify handling of large parts.

**Air-inlet plenums** are custom engineered to meet proper cross-draft requirements.

**Work-access doors** provide a large entry for loading parts. Rooms can be equipped with doors at both ends to facilitate in-line parts handling.

Empire gives you a wide range of choices for conveying media including: **Screw floors, Vibratory floors, Sweep chutes, Shovel chutes and Pneumatic-recovery troughs.**

# EMPIRE

## OPERATOR SAFETY EQUIPMENT

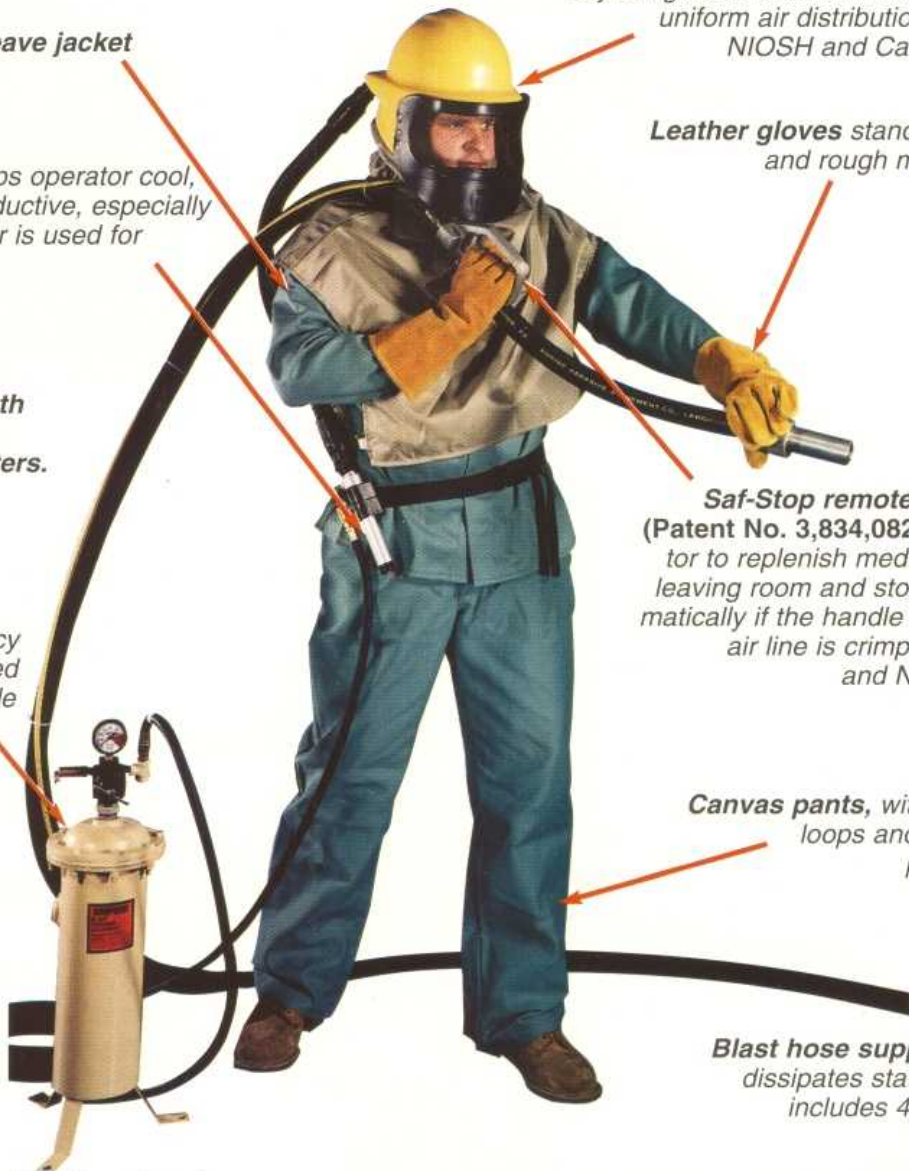
No blast room is complete without the equipment and clothing required to protect the operator. Empire will supply everything you need—all NIOSH approved to comply with OSHA when the operator is fully equipped.

**Rugged, canvas-weave jacket** has snap fasteners.

**Air conditioner** keeps operator cool, comfortable and productive, especially when compressed air is used for breathing.

**Empire supplies both ambient-air pumps and personal-air filters.**

The air filters, which remove moisture, oil, fumes, dust and particles from compressed air, provide 99% efficiency but must be supported by a carbon-monoxide monitor to meet OSHA standards.



(Air filter shown)

**Silica sand is not to be used in any Empire blast equipment.**

**Air-fed helmets**, equipped with self-adjusting head band and inner cape, provide uniform air distribution and meet both NIOSH and Canadian approval.

**Leather gloves** stand up to abrasives and rough material handling.

**Saf-Stop remote-control handle** (Patent No. 3,834,082) permits operator to replenish media supply without leaving room and stops blasting automatically if the handle is dropped or an air line is crimped or cut. OSHA and NIOSH approved.

**Canvas pants**, with reinforced belt loops and snap-fasten fly, protect legs from blast ricochet.

**Blast hose** supplied by Empire dissipates static electricity and includes 4-ply construction with nylon wrap.

## OTHER EMPIRE PRODUCTS

- Blast cabinets
- Automated blast systems
- Plastic-media stripping systems
- Portable blasters

**RODECO COMPANY**  
Metal Finishing Equipment and Supplies  
5811 Elwin Buchanan Drive  
Sanford, North Carolina 27330  
(919) 775-7149 • Fax (919) 774-3130

# EMPIRE

**ABRASIVE EQUIPMENT COMPANY**  
2101 West Cabot Blvd., Langhorne, PA 19047-1893  
PHONE: (215) 752-8800 FAX: (215) 752-9373  
E-Mail: Airblast@empire-airblast.com  
<http://www.empire-airblast.com>