

PANGBORN



Making an Impact

Shot Blasting and Surface Preparation Solutions

Contents

Pangborn in the Marketplace3

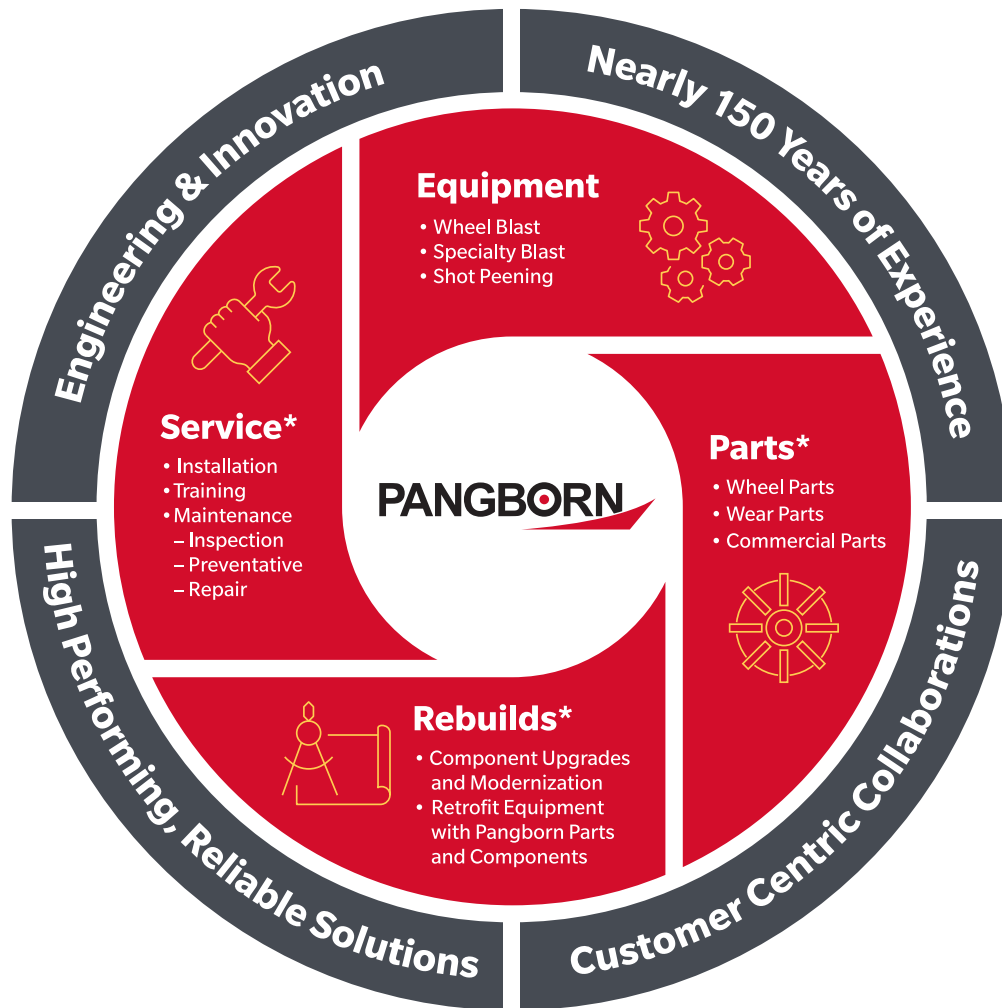
Blasting Solutions.....4

Aftermarket Parts & Services.....6

Developing Innovative Products & Solutions.....8

Industries 10

Pangborn’s History of Innovation & Excellence 11



Pangborn in the Marketplace: *Making an Impact*

P-41 alloy and steel construction for:

- Enhanced durability
- Machine longevity
- Less downtime
- Increased safety

Genesis wheel technology:

- Better abrasive control and improved flow boosts machine performance and productivity
- Ease of maintenance
- High/Low/Variable speed options for flexibility and precision

High-efficiency separator:

- Consistent blast quality and abrasive flow for a better finished product and more efficient operations
- Optimized contaminant removal
- Better abrasive life for cost savings

Electronics package:

- Multiple package options to meet your needs
- Remote connectivity for easier and more efficient maintenance
- Back office integration and data collections for improved operations

* Available for Pangborn and non-Pangborn blast equipment and components.

Blasting Solutions

For almost 150 years, Pangborn has provided superior shot blasting equipment and surface preparation solutions.

Our sales, engineering, and service teams work closely with each customer to design best-in-class solutions to drive operational excellence and deliver improved total cost of ownership and increased profitability. Whether you're looking for a shot blasting machine, air blasting equipment, or other specialty applications, Pangborn has a solution to meet your needs.

Blast Cleaning

We design and manufacture a variety of blasting solutions for general or specific blasting applications. Our flexible designs differ in the number and placement of blast wheels and air nozzles and incorporate various material handling systems.

Wheel Blast: Delivering Unrivalled Performance

Pangborn provides technologically advanced wheel blast solutions in a wide variety of industries to customers around the globe. Proprietary materials, innovative thinking, patented designs, and manufacturing processes paired with nearly 150 years of experience and expertise have resulted in some of the most efficient wheel blast solutions in the industry.

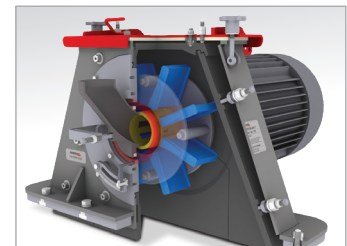


Our flexible designs are achieved by varying the number and placement of blast wheels, as well as incorporating various material handling systems to create a solution that best addresses the customer's requirements. Pangborn wheel blast machines deliver unrivalled performance thanks to our unique abrasive distribution across the work surface resulting in shorter cleaning times, high volume production, and cost-effective performance.

Pangborn Auxiliary Components: Innovative Technology. Reliable Performance

While the heart of a blasting operation is the blast wheel and the blast equipment itself, the actual operation of the equipment requires additional components for an effective, and more efficient operation.

Whether you need an accurate and easy way to maintain a blast wheel, an abrasive separator to keep sand sorted for recycled abrasive, or a dust collection system, Pangborn has the ancillary component(s) you need, regardless of the manufacturer of your existing blast equipment.



Specialty Blast: Customized Equipment For Unique Environments

Pangborn engineers work hand-in-hand with customers to develop configured-to-order solutions to meet specialized blasting requirements.

When asked to create unique blasting and surface preparation solutions, our engineers work closely with our customers to understand their precise needs and expectations. Prior to designing a custom solution, all aspects of the manufacturing environment, work surface, and operational requirements are taken into consideration, including the desired equipment, finish, current facility configuration, and even the alloy of the work piece itself.



Shot Peening: Achieving Precise Results

Pangborn has a long history of designing and manufacturing the finest peening machines. Our shot peening systems are used to achieve precise results for the most technologically advanced equipment in the aerospace industry, the automotive industry, and the military. Our peening systems are used by the world's leading manufacturers for peening, metal forming, and surface finishing applications. We have a variety of shot peening solutions for the automotive, aerospace, defense, agricultural, forge, and railway industries.



Air Blast: Precise And Flexible Control

Pangborn's line of air blast equipment helps our customers address applications demanding precise blasting and cleaning methods. Air blasting gives the equipment operator precise yet flexible control of the work pieces being blasted through programmable or handheld blasting nozzles.

When consistency and precision are required, our special table machines are specifically made to treat small parts that demand a precise and repeatable process. When flexibility around shape and size is required, our air blast rooms are designed to meet the largest and most challenging applications.



Applications

- Descaling
- Sand Removal
- Etching
- Coating Removal
- Peening
- Hardening
- Cleaning
- Paint Stripping
- Deburring
- Surface Finishing
- De-rusting
- Surface Cleaning

Aftermarket Parts & Services

The newest equipment and latest technology are only as effective as the operators who are running it. That's why Pangborn provides our customers with ongoing training and instruction on equipment care; installation services to help them get their equipment up and running quickly; on-site inspections and maintenance schedules to ensure the long-term performance of their machine; and, experienced inside sales and customer support teams who are just a phone call away.

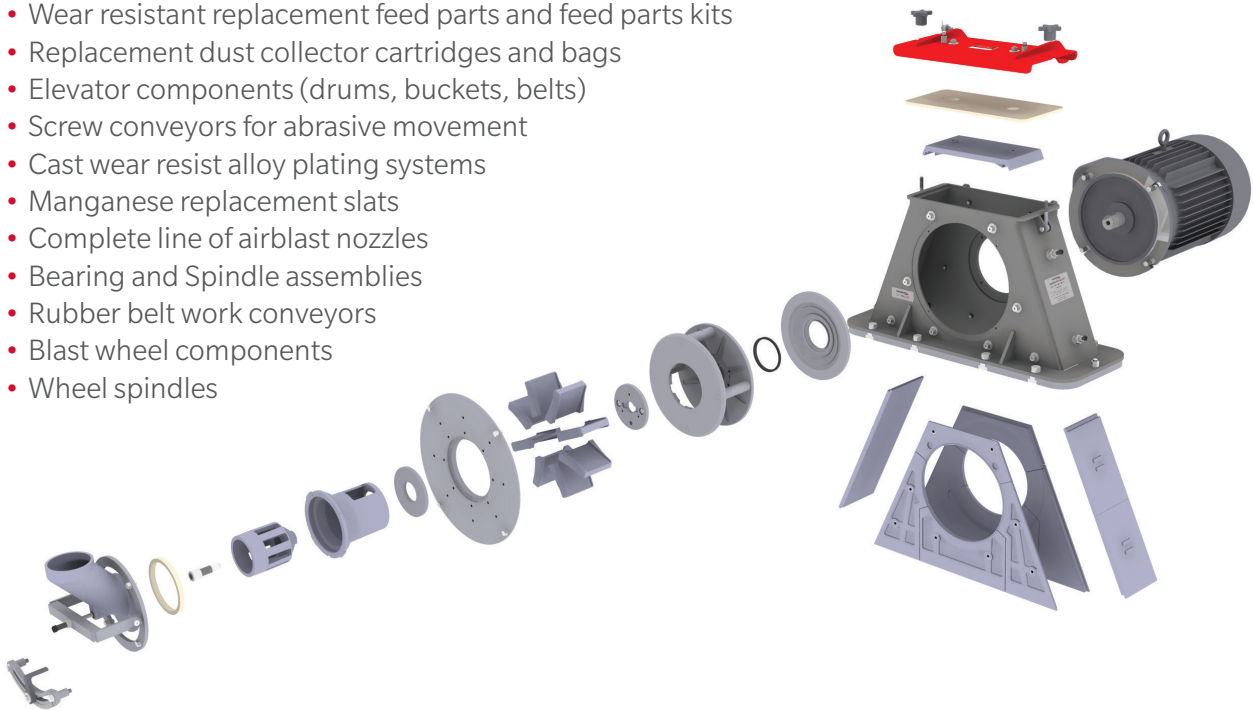
Pangborn Replacement and Aftermarket Parts

At Pangborn, we are dedicated to providing our customers with high-performing shot blast and surface preparation solutions that are easy to maintain and operate, and are safe, reliable and durable.

Our parts represent superior value and proven performance. With unrivaled industry testing procedures and the highest quality raw materials (including our P-41 alloy), our customers are assured maximum wear and machine longevity from every Pangborn part, large or small. Our vast distribution network will provide you with quick delivery of parts regardless of location.

Pangborn not only supplies original spare parts of the best quality for Pangborn blast machines but also spare parts for blast machines from other shot blast equipment suppliers. Our team of engineers is available to help you determine the right parts for your equipment.

- Wear resistant replacement feed parts and feed parts kits
- Replacement dust collector cartridges and bags
- Elevator components (drums, buckets, belts)
- Screw conveyors for abrasive movement
- Cast wear resist alloy plating systems
- Manganese replacement slats
- Complete line of airblast nozzles
- Bearing and Spindle assemblies
- Rubber belt work conveyors
- Blast wheel components
- Wheel spindles



Pangborn Modernization and Upgrades

Whether you're looking to increase productivity, reduce costs, or give your shot blasting equipment a renewed life, Pangborn upgrades and rebuilds can help make the most of your equipment investment. Our team of engineers can recommend an updated, modern solution that will integrate with current operations and equipment even if you have non-Pangborn blast equipment.

While ensuring the best blast performance, our team of engineers will evaluate the efficiency of your present system and recommend and implement the most economical upgrade. Our rebuilds are designed to provide longer service life, accommodate a changing work piece mix, increase efficiency, meet increased production demands, and improve environmental conditions. Upgraded designs can extend the life of your current blast equipment without incurring the costs of a completely new blast machine. The resulting efficiency and ease of maintenance will save you time and money.

- **Complete machine upgrades and rebuilds**
- **Wheel upgrade kits**
- **Component upgrades, rebuilds, and retrofits**



Pangborn Service and Maintenance: Service you can count on

Your shot blast or surface preparation equipment is a critical element of your organization's overall workflow, and downtime is not an option. Routine inspections and proper maintenance can increase the lifetime and ensure the long-term performance of your equipment.

In the event that our sales and support staff is unable to diagnose or solve a customer's problem remotely, they will dispatch the necessary personnel for on-site service. Our certified specialists help keep your equipment running with limited downtime and high efficiency with the repair or replacement of normal wear items, as well as making critical machine adjustments. When maintenance does not resolve an issue, our rebuild and upgrade technicians can help you plan the most economical improvement for your equipment.

- **Inspection Services**
- **Preventative Services**
- **Maintenance and Repairs**



Developing Innovative Products & Solutions

As a Pangborn customer, you will benefit from our extensive engineering capabilities located in Europe, North America and China. Our engineers work together with you to create and fine tune products that enhance your productivity.

The Pangborn Customer Technology Center is a state-of-the-art testing and training facility for pre- and post-sales testing and support evaluations as well as upgrade, rebuild, and process improvement validation. Customers and Pangborn experts work together to simulate machine configurations without interrupting normal operations. In the Center, we have the flexibility to quickly move from computer simulations to real-world testing and validation.

Pre- and Post-Sales Testing & Support

Customers and our experts work together to use an array of multi-purpose blast machines to test wheel types, sizes, positioning, operating mix, and a number of other variables. Our unique simulation machines incorporate multiple blast wheels, each of which can be repositioned to simulate a number of blast pattern objectives.

When testing is complete, our customers can be assured of efficient designs that deliver the highest quality and expected productivity.

Demonstrations & Training

Our Customer Technology Centers can simulate over 95% of all processes available in the surface preparation industry and are an invaluable tool for our customers prior to purchase, as well as throughout the life of their equipment.

Our engineers can demonstrate a full line of processes, from small air blast operations to large multiple centrifugal wheels. Depending on which Center you visit, we are able to demonstrate a number of capabilities, from peening and cleaning to deburring and descaling.

Research & Development

The cornerstone of our innovative technology lies within the research and development that we invest in all of our products. Developing new products and solutions is at the core of what we do. Our entire focus is providing our customers with high-performing shot blast equipment and solutions that are easy to maintain and operate, and are safe, reliable, and durable. In our Customer Technology Centers, our teams focus on continually improving our designs, meeting and exceeding quality expectations, and ensuring that we meet the latest safety and environmental standards.



Customer Technology Center



BE Separator

Innovations from Pangborn

- P-41 high wear metallurgy
- Genesis blast wheel line
- BE and Magnetic separators
- RotoDrum blast machine
- Sand Systems



Table Blast Machine



Multipurpose Room with Robotic Arm



Blast Wheel Test Cabinet

Industries



Aerospace

Our impressive portfolio of peening, cleaning and deburring installations is built on decades of experience collaborating with the world's leading aerospace manufacturers to blast a wide variety of aerospace components.



Agriculture

Leading agricultural and heavy-equipment manufacturers rely on our equipment for their surface preparation needs. Our versatile and broad line of products, make us the ideal partner.



Automotive

We are a leading supplier of metal finishing and peening equipment to global OEM and automotive manufacturers. You will find our equipment integrated into high-volume finishing lines throughout the automotive industry.



Construction

From bridges to buildings, we provide a wide range of equipment and solutions to support the construction industry for steel or concrete applications.



Defense

Peening, deburring and metal cleaning are just some of the applications we provide for leading defense companies, as well as equipment installations for all branches of the armed forces.



Energy & Power

The "green-energy" sector is a growing part of our business and a strong focus. Power plants, turbines and wind mills are just some of the industries where we have a strong presence.



Foundry & Forge

With a large global installed base, we manufacture a variety of solutions specifically designed for foundry and forging applications. Our heavy-duty designs are reliable, versatile and proven to provide superior results.



Metalworking

We offer machines to support the construction of roads, bridges, pipelines and many other metal structures. Our proven blast systems provide flexibility in blasting a variety of fabricated metal parts of all sizes and shapes.



Rail

Our products are suited for high production of carriers, frames, engines, rail wheels, transmissions and gears. Industry suppliers – and maintenance and repair companies – rely on our products to help them process these and other rail-related components.



Shipyards

Our broad product line is found in shipyards worldwide. Our equipment is used in fully automated preservation lines, treatment sections, profiles, steel plates and other components.



Steel Industry

Descaling coils, slabs, plates and pipes are just some of the areas where we excel and can assist you. Our products are built to accommodate a variety of sizes, weights and shapes, making us the vendor of choice to some of the largest players in the global steel industry.



Special Applications

We produce a wide array of custom-designed equipment for special applications. Our engineering design teams can handle the most demanding special applications, including anodes, pots, pans, smelters, boilers, or special robotic handling.

Pangborn's History of Innovation & Excellence

-
- 1873** Berger Maschinenfabrik (steel foundry) founded by Theodor Berger in Bergisch Gladbach, Germany.
 - 1891** Vogel & Schemmann AG founded by Adolf Vogel Jr. and Emil Schemmann in Hagen, Germany.
 - 1904** The Pangborn Corporation founded by Thomas W. Pangborn in Hagerstown MD, USA. Pangborn develops the process known as sandblasting.
 - 1920** Pangborn pioneers the use of metal abrasives to replace sand.
 - 1935** Berger Strahltechnik begins manufacturing blast machines.
 - 1959** Milan based Invictus (later Pangborn Europe) starts importing and selling shot blasting machines.
 - 1970** Pangborn develops fully automated machines for auto engine castings; offers first foundry sand reclamation and conditioning machines.
 - 1972** Shotblast Engineering Services Ltd. (SES) founded in Hale Cheshire.
 - 2008** Pangborn moves its headquarters from Hagerstown, MD to Fairburn, Georgia just outside of Atlanta.
 - 2009** Pangborn acquires Pangborn Europe, Vogel & Schemmann Maschinen GmbH, and Berger Strahltechnik GmbH, forms The Pangborn Group; Pangborn introduces the Genesis family of wheels.
 - 2013** Pangborn acquires Shotblast Engineering Services Ltd. (SES).
 - 2014** Pangborn opens a sales office in San Luis Potosi, Mexico.
 - 2015** United Generations acquires the Pangborn Group.
 - 2019** Pangborn opens world class Customer Technology Center at its Fairburn, Georgia headquarters.



Pangborn Global Locations



Pangborn Headquarters

4630 Coates Drive
Fairburn, Georgia 30213
P: +1 (404) 665-5700
T: +1 (800) 638-3000
F: +1 (404) 665-5701

Email: info@pangborn.com
Web: www.pangborn.com

Pangborn Europe

Via Enrico Fermi, 75 - 21042
Caronno Pertusella (VA) Italy
P: +39 02 963 9951
F: +39 02 965 6741

Pangborn de LATAM

Av. Chapultepec 1610
Edificio ILEVA 1er Piso
Col Privadas del Pedregal 78295
San Luis Potosí, México
P: +52 (444) 2740329