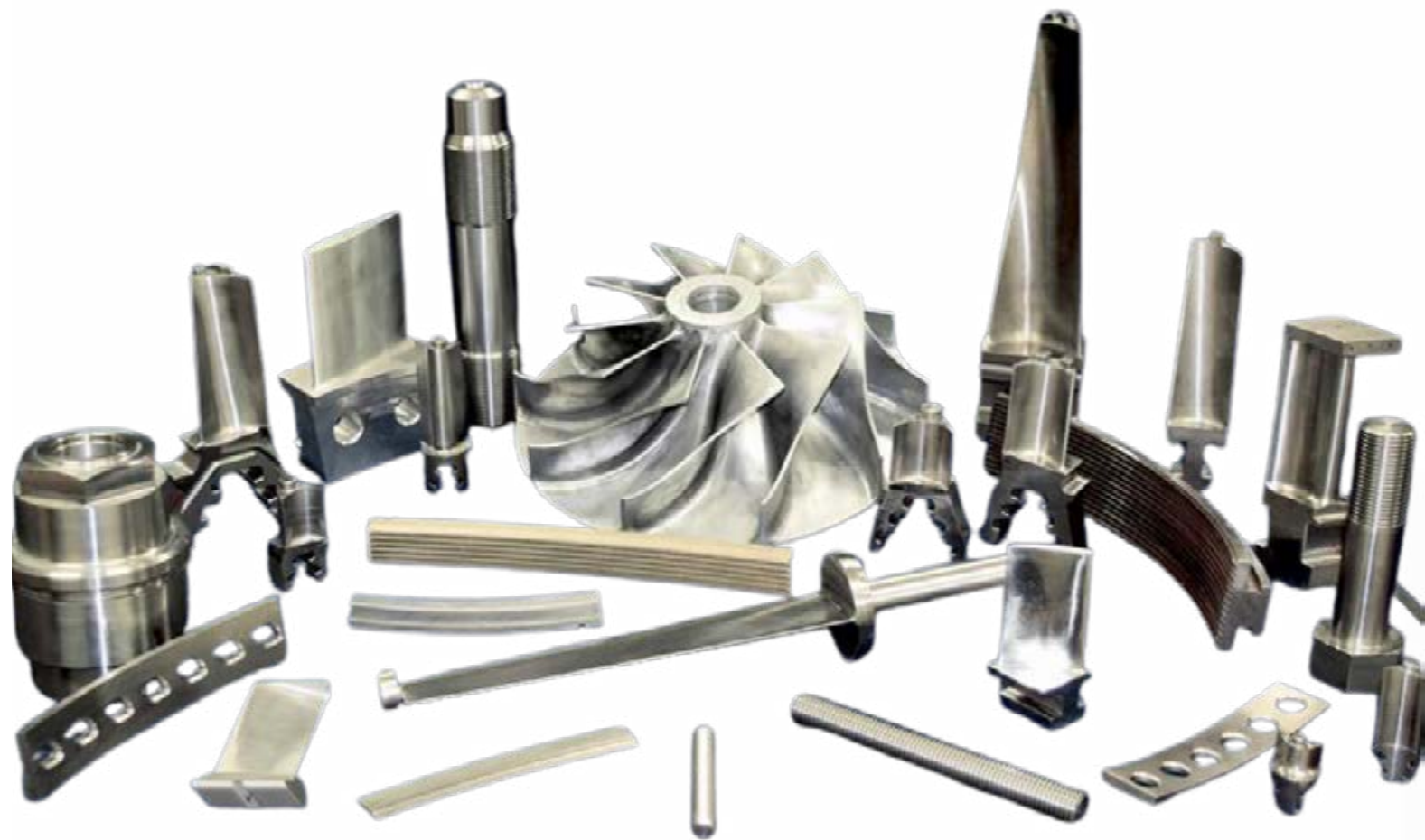




YOUR
TURBINE
EXPERTS

PART MANUFACTURING CAPABILITIES



STEAM TURBINE VALVE PARTS

Power Services Group ® stands at the forefront of engineering and design, specializing in the creation of steam turbine valve parts and assemblies. Our approach goes beyond the conventional - we don't just manufacture parts, we engineer them. Our expertise lies in understanding the intricate details of critical service valves. We delve into the specifics of the application and operational issues to manufacture parts that truly serve your needs.

We believe in adding value to every step of the process. This means we consider not just the dimensions, but also the appropriate materials, tolerances, clearances, heat treatments, overlays, and finishes.

At Power Services Group ®, we don't just manufacture - we create, innovate, and engineer to deliver solutions that truly fit your requirements.

Power Services Group ® CAN SUPPLY PARTS AND UPGRADES FOR A WIDE RANGE OF STEAM TURBINE VALVE TYPES:

- Main Steam Stop Valves
- Governor / Control Valves
- Throttle Valves
- Intercept Valves
- Ventilator Valves
- Blowdown Valves
- Equalizer Valves
- Combination Valves
- Butterfly Valves



WHAT ARE THE ADVANTAGES OF USING PSG ®?

- We can provide individual parts or a complete assembly ready to be installed upon delivery to your facility.
- Quality Materials - Almost all of our raw materials are sourced from the U.S.
- Affordable pricing
- Expedited Manufacturing Schedules.
- We stock most raw materials in-house, allowing us to support emergency needs and we can provide overnight delivery for any finished goods we have in stock.
- 24/7 emergency support.
- We can repair or replace damaged parts. Many damaged parts can be repaired and returned to their original condition.
- In-house Engineering allows PSG ® to ensure every part meets or exceeds original requirements and allows us to recommend technology upgrades to improve valve and plant performance when warranted.
- In house nitriding
- Hard faced stellite coating to improve part durability



FASTENERS

Power Services Group® produces various types of fasteners for steam turbines, gas turbines, and balance of plant machinery to meet our customer's maintenance needs.



We stock alloy steel, stainless steel, inconel, and other alloy bolting materials to provide quick turnaround times. Here are some of the typical fasteners that we can supply:

- Through studs
- Tap studs
- Casing studs
- Body bound studs
- Dowel studs
- Coupling studs
- Screws
- Set screws
- Pins
- Lock-plate
- Nitride washers
- Hex and slotted nuts



PACKING & SEALS MANUFACTURING & INSTALLATION

Located in Marion, Ohio, Power Services Group® (PSG®) boasts a Packing & Seals Division that is home to a skilled team of machinists. With over 100 years of combined experience, our team specializes in manufacturing packing, spill strips, and other related parts essential for efficient steam turbine operations.

Our packing & seal manufacturing facility spans over 25,000 square feet, with 17,000 square feet dedicated solely to the manufacturing floor. At PSG®, we prioritize maintaining design clearances. We achieve this by replacing worn seals, which not only improves turbine efficiency but also results in significant savings on operating costs.

To ensure the highest quality, PSG® offers on-site verification of diameters before manufacturing begins. This guarantees that the replacement parts delivered to your site meet the exact specifications. Upon arrival of the components, our highly skilled field machinists take over, ensuring your new parts are installed correctly and efficiently.

CAPABILITIES:

- Manufacture any diameter packing rings up to 60" with any tooth configuration, dovetail, & width
- Manufacture new & rebuild components for all OEMs specified materials for packing & seals such as 409/410/422 Stainless Steel, Grade F-22/A387 Steel, as well as Nickel, Silver, & Bronze.
- Engineering team uses CAD/CAM services to reverse engineer & re-create clearances to properly restore the rotational & stationary part clearance & thermal performance.

EXAMPLES OF PRODUCT & SERVICES:

- | | |
|------------------------------|------------------------|
| • Steam Packing | • Standard Snout Rings |
| • Anti-swirl Packing | • Retainers |
| • Boiler Feed Pump Packing | • Keys |
| • Oil Deflectors | • Pins |
| • Spill Strips | • Retainers |
| • J-Strips/ Caulking | • Springs |
| • Tooth Material | • Reverse Engineering |
| • Water Gland Casing | • Pre-measurement |
| • Piston Rings (Steam & Oil) | • On-site Installation |
| • Hydrogen Seal | • Mobile Machine Shops |
| • Bell Seals | |



BLADES/BUCKETS

Power Services Group ® is a turnkey provider of steam turbine blades/buckets and compressor blades, providing the manufacture of new blades as well as the installation services.

At PSG ® we utilize state of art equipment, experienced technicians ,and qualified engineers to perform reverse engineering, evaluation, and manufacturing of a wide range of blades/buckets to meet original design standards. We utilize all available resources to design, optimize, and manufacture a variety of root forms and air foil designs within the power generation industry. PSG ® raw material inventory holds standard HP, IP & LP section blade materials in stock at larger volumes for quick turnarounds. In addition, we custom fit each row of blades to mitigate any looseness due to wear over time.

PSG ®'S BLADE MANUFACTURING SERVICES OFFER YOU EXCEPTIONAL QUALITY DRIVEN BY THESE BENEFITS AND FEATURES:

- Extensive design knowledge and over 30 years of experience in manufacturing of blades/ buckets for multiple manufacturing designs.
- The latest state of art 3D GOM blue light scanner to capture air foil data.
- Modern CNC 5 axis/4 axis machines to manufacture blades/buckets with precision tolerances.
- Large volume of blade material inventory to address scheduled or forced outages with shorter lead times.
- Experienced blade technicians for blading, de-blading , brazing and tie wire installation.
- In-house shot peening.
- Solid Particle Erosion (SPE) coatings to minimize erosion in service.
- Stellite erosion shield manufacturing and brazing for LP section blades to reduce water droplet erosion.
- In-house / On-site Low speed balancing of rotor after blade installation.



800-226-7557

