

## Extending Turbomachinery Equipment Life with One-Source Service



*Precision cylindrical grinding of a turbine rotor can achieve OEM dimensional tolerances and surface finish.*

For nearly 70 years, HFW Industries has been [a trusted partner to the power generation industry](#), offering full-service capabilities in manufacturing and repair.

**From turbine shafts and rotors to seal housings, bearing housings, and turbocompressor components**, we apply deep technical knowledge, advanced coatings, and precision machining to extend equipment life and minimize downtime.

## Turbomachinery Demands Precision—We Deliver It

Our customers operate in high-stakes environments—utilities, [oil & gas](#), and industrial energy—where equipment reliability is non-negotiable. Whether you're working with turbocompressors, steam turbines, or balance pistons, **HFW delivers OEM-quality repairs and manufacturing that restore critical components to spec.**

We routinely manufacture and restore:

- Turbine and turbocompressor shafts
- Rotor assemblies
- Shaft sleeves and seal housings
- Bearing housings and balance pistons
- Valve components, bushings, couplings, and gearbox bores

Some of these components are coated, others are not. Nevertheless, each undergoes thorough inspection and quality control at every step.

## One Source for Thermal Spray, Machining, & Assembly

Our one-source service model sets us apart. We handle [precision machining](#), [thermal spray coatings](#), [hardfacing](#), [finishing](#), and final inspection in one facility. That means:

- Lower costs and fewer vendors
- Faster lead times
- Simplified procurement
- Consistent quality assurance

For example, if you're working with a turbine shaft:

- We can supply material, **machine the part complete**, **apply thermal spray coatings** (for wear, corrosion, or high-temp resistance), grind it to tolerance, and [inspect it using electrical mechanical runout \(EMRO\)](#) and TIR checks down to .0002".

If you're repairing a shaft or housing:

- We can **rebuild worn diameters**, [apply high velocity oxy-fuel \(HVOF\) coatings \(like tungsten carbide or chrome carbide\)](#), and return the part to OEM specifications.

## Thermal Spray Coatings for Turbomachinery

Thermal spray coatings are at the heart of our repair and wear-prevention strategy. We use HVOF, plasma spray, and hardfacing processes depending on application needs.

Here's how we typically choose a coating:

- **Tungsten Carbide** (HVOF) – best for wear protection in applications under 1000°F
- **Chrome Carbide** (HVOF) – used above 1000°F or when corrosion + wear resistance is critical
- **Stainless steel or custom blends** – used for buildup, dimension restoration, or when customer spec dictates

Each coating is selected to **extend surface life**, **improve resistance** to abrasion, erosion, and corrosion, and **reduce maintenance cycles**.



## **EMRO: Tight Tolerances, Precision Runout Control**

Quality matters throughout the entire process, and especially at the final stages. HFW's climate-controlled inspection lab allows us to perform **EMRO (electrical runout) and mechanical runout inspections using laser technology**. Burnished probe areas ensure accurate measurement and balance in sensitive rotating components. This is essential for applications involving high-speed turbines and turbocompressors.

## **Trusted by Reliability Engineers and Plant Managers**

HFW is **ISO 9001:2015 certified**, and every operation on a job is reviewed and signed off by our quality control inspectors. We recently added a [5-axis CNC mill](#) and [a CNC cylindrical grinder](#), enhancing our ability to meet precision manufacturing demands.

Our customers in the [power generation](#) and [oil & gas sectors](#) continue to choose HFW because we combine:


- Decades of turbomachinery experience
- Veteran machinists mentoring the next generation
- Deep process knowledge of coatings, machining, and inspection
- An uncompromising commitment to customer satisfaction

When reliability engineers think of HFW, they think of quality, precision, and accountability

## **Looking for a Partner in Turbomachinery Repair or Manufacturing?**

Whether you're facing shaft wear, seal degradation, or housing failure, HFW Industries offers cost-effective, high-performance solutions that keep your turbomachinery running reliably. Call us today to speak with our sales team about [thermal spray coating options](#), materials compatibility, or [full assembly rebuilds](#).

We'll help you decide what's right, whether it's tungsten carbide HVOF coating, chrome carbide for high-temp resistance, or a complete shaft rebuild and [EMRO inspection](#).

 Call us at (716) 875-3380

 Email: [RFQ@hfwindustries.com](mailto:RFQ@hfwindustries.com)



Want to explore more? **Start with these resources from our Knowledge Base:**

- [Overview of Thermal Spray Coatings: HVOF & Tungsten Carbide](#) — Why these materials are key to high-performance surface protection
- [HVOF — A Superior Alternative to Chrome](#) — Why HVOF coatings often outperform chrome in durability, cost, and turnaround time
- [How HFW Extends Equipment Life](#) — Real-world example of innovation in action
- [What is Electrical Mechanical Runout \(EMRO\)?](#) — Learn how EMRO shaft inspection can help ensure operations run smoothly
- [What are HFW's hardfacing capabilities?](#) — Explore how HFW's hardfacing expertise restores industrial equipment with proven weld procedures and precision inspection