



MAINTENANCE  
PARTNERS  
by Howden

# Maintenance Partners by Howden (HMP)

Rotating equipment and turbomachinery aftermarket specialists



## About HMP

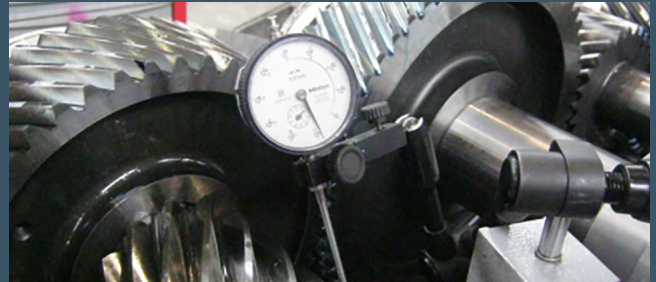
Total solution aftermarket service partner maximizing the efficiency longevity and safety of your rotating and turbomachinery equipment, regardless of OEM. Count on our expertise to reduce your risk of unplanned downtime and revitalize your equipment.

### Quick service guide

- Rotor balancing
- Dynamic analysis
- Reverse engineering
- Diagnostic maintenance
- Inspections
- Repairs
- Welding repairs
- Rewinding
- Upgrades & rerates
- Optimization
- Field service
- Service agreements

### Repairs

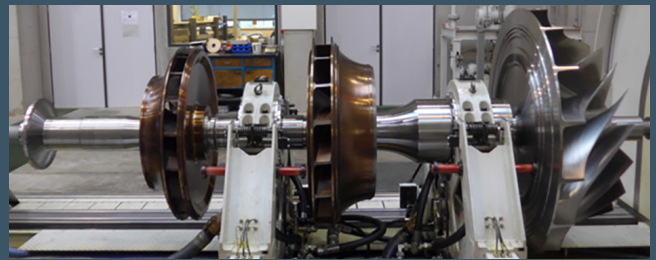
Extensive experience performing repairs of rotating equipment parts. HMP provides lathe and 5-axis machining, hot-wire TIG welding, laser cladding, bearing repairs, reblading and more.



### High/Low Speed Balancing and Rotor Dynamic Analysis

Bearing design, rotor dynamics, machine reliability and vibrational analysis.

Specifications	DH4	DH7
Max. Rotor Weight	60 to 1250kg	600 to 12500kg
Max. Rotor Length	6000mm	6000mm
Max. Rotor Diameter	1700mm	1700mm
Max. Rotor RPM	30000	12000



## Products Covered

**Compressors** – screw, axial, lobe, centrifugal

**Steam Turbines** – axial and radial

**Heaters** – gas/gas, air preheater

**Cooling fans** – axial, centrifugal, turbo

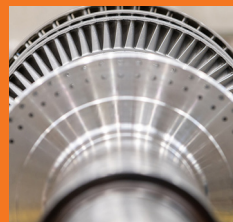
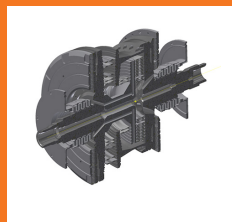
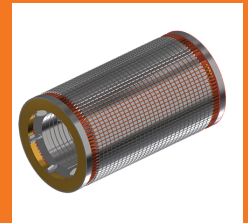
**Blowers** – vacuum, centrifugal, High Vacuum Boosters

**Turboexpanders** – axial, radial

**Gearboxes** – planetary, bull gear

**Pumps** – vacuum, centrifugal, multi-stage, boiler feed, deep well, booster, canned motor, barrel, rotary vane

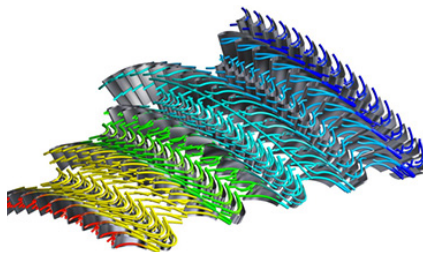
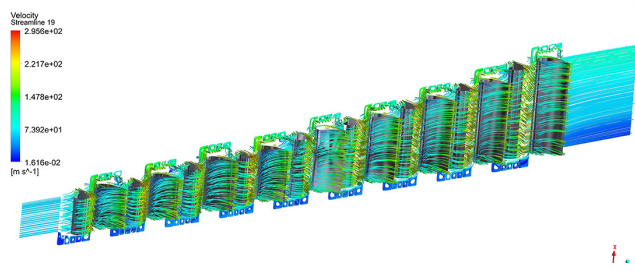
**Shredders, cutters and breakers**





## Computational Fluid Dynamics

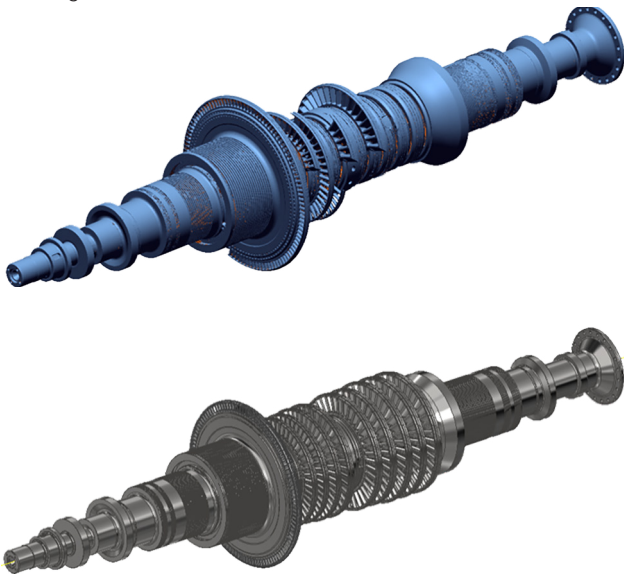
HMP performs 1D mean-line, 2D through flow and 3D CFD analysis to evaluate and optimize the performance of rotating equipment.



## Reverse Engineering

HMP utilizes blue light scanning, a non contact 3D technology for capturing the geometry of components.

PMI is used to determine the chemical composition of components, including carbon content.



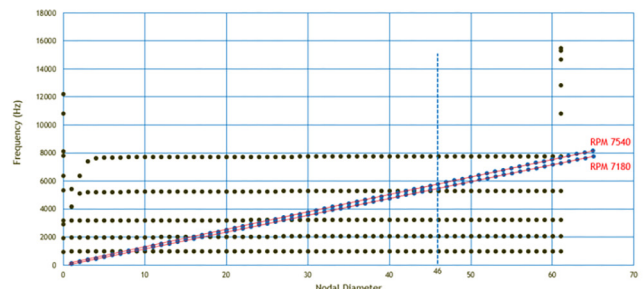
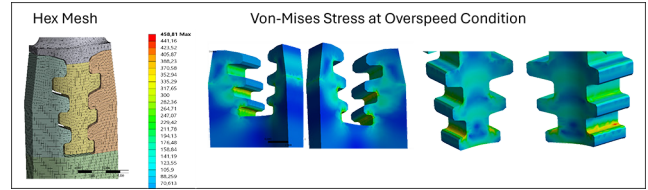
## Rewinding

Refurbishing electric motors and generators in accordance with API/ISO standards.



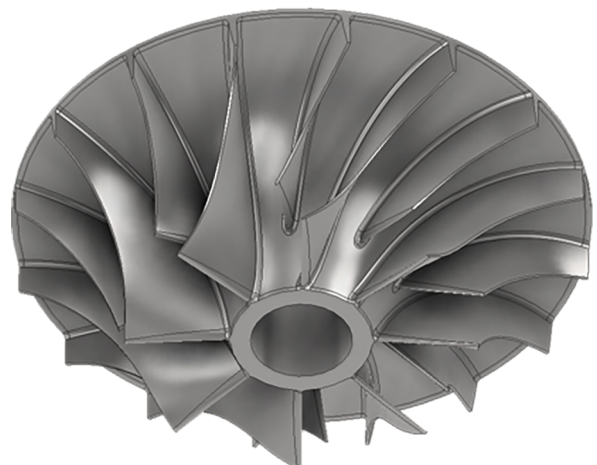
## Finite Element Analysis (FEA)

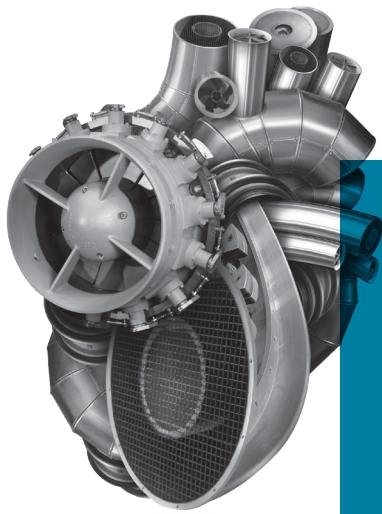
HMP uses FEA Structural and Modal Analysis to evaluate the mechanical integrity of components for optimized performance and life cycle. FEA is also used as an investigative tool during failure analysis.



## Optimisation, Upgrades and Rerates

HMP expertise enables us to go beyond maintenance and repairs, hence we offer engineered redesign, optimization and improved performance of major components across all types of rotating machinery.





## At the heart of your operations

HMP is a relatively small, highly focused expert team dedicated to providing the best solutions for your vital operations. Our members boast a wealth of experience and expertise across all design and engineering phases and our shop includes the latest equipment for balancing, machining, welding, rewinding, testing and other core operations.



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