



HORSBURGH & SCOTT
GEAR UP™

COMPANY OVERVIEW

Horsburgh & Scott, founded in 1886, is one of the world's leading manufacturers of industrial gears and custom gear drives. With our combined 350,000 square feet of manufacturing, repair, assembly and heat treat space, we can manufacture new gear components and gearboxes, and provide teardown analyses, engineering upgrades, repairs, and offer customers increased service factors that can expand equipment lifecycle. From newly designed and built gear drives to worldwide field service, Horsburgh & Scott is the best source for all your gearing needs.



Solutions for Many End Markets and Applications

- Metals
- Mining
- Pumps
- Sugar
- Oil & Gas
- Wind Energy
- Tire & Rubber
- Power Generation
- Transportation
- Infrastructure
- General Industrial

Products Custom Designed or Manufactured to Customer Specifications:

- Enclosed Gear Drives
- Gears
- Replacement or Spare Parts
- Contract machining services

Products and Services to Fit any Need:

- Project management
- Engineering, analysis and upgrades
- Gearbox rebuild and repair
- Global field service
- Condition monitoring



All H&S Field Service Technicians and Engineers are factory trained, highly-skilled, and experienced with all manufacturers' products.

Engineering and Quality Assurance:

- Custom gear or gear drive engineering
- Engineering analysis
- Reverse engineering
- Engineered upgrades
- Sophisticated tools and practices to follow rigorous standards, including AGMA, ISO, AASHTO and API
- Zeiss Coordinate Measuring Machine with capability to 4 x 4 x 2M



Comprehensive Industrial Gearing Repair and Service:

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| • Engineering analysis, gearbox evaluations, reverse engineering | • Detailed borescope inspections |
| • Disassembly and reassembly | • Non-destructive testing |
| • Gearbox no-load spin testing | • Condition monitoring <ul style="list-style-type: none"> • Real time remote monitoring • Networked |
| • Failure analysis, troubleshooting, problem solving | • Integrated with operating parameters |
| • Gear inspection | • Vibration |
| • Global field service | • Torque |
| • Installation supervision | • Load |
| • Laser alignment | • Temperature |
| • Predictive and preventative maintenance | • Pressure |
| • Annual, semiannual, and quarterly inspections | • Alarm notification |
| | • Report generation |
| | • Root cause analysis |

Main Plant
5114 Hamilton Avenue
Cleveland, OH 44114
216.431.3900

Heat Treat Facility
4629 Hamilton Avenue
Cleveland, OH 44114
216.432.5804

Repair Center
1441 Chardon Road
Euclid, OH 44117
216.865.0550

Manufacturing Capabilities:

- Gear cutting, including hobbing, shaping, flycutting, Sykes herringbone, Maag shaping (conventional and hardcutting); up to 288"
- Form grinders to 6 meters (237" diameter) AGMA class 14 with internal grinding capability to 137"OD gear blank
- Vertical turning to 50' with live spindle. Shaft turning to 76" diameter. OD grinding to 72" diameter. Keyseating to 60" stroke with indexable table
- Large welded gear blanks to 238" diameter with furnace stress relieving
- Horizontal Boring Mills to 9" spindles, 7 axis CNC floor mill with 20' index table

Heat Treat:

- Process components to 50,000 lbs
- Effective case depths for carburizing and induction hardening to 0.250"
- New Aichelin carburizing and hardening line:
 - 2.0m diameter x 2.5m depth
 - 2.5m diameter x 2.0m depth
- New Saet CNC induction hardening machine up to 5.3m diameter
- Stress relieving of component weights to 100,000 pounds



www.horsburgh-scott.com