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CML Northern Blower Inc.

## **Centrifugal Fans for Power Industry Applications**

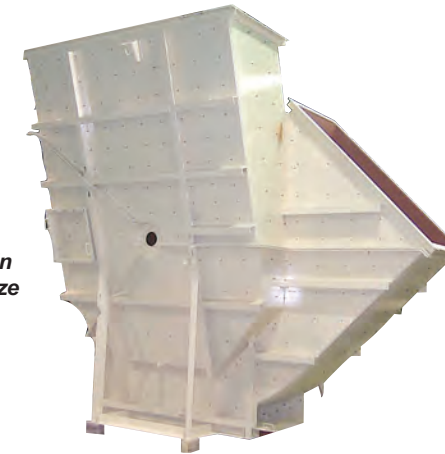




*Size 4900 Design 5730 Industrial Airfoil fan in Arrangement 8S1. Dust collection exhaust fan installed in Texas.*



*Radial-tip fan for induced draft service on an industrial boiler in South Carolina. Design 8813 size 7300, Arrangement 3S1.*



## Reliable Operation

### Reliable Operation... the Most Important Feature

Every Northern fan destined for a power application is subject to rigorous engineering, manufacturing and inspection processes to ensure years of reliable operation.

### Engineered to Last

Northern develops its fan designs with the aid of sophisticated engineering tools, including 3D CAD modeling, finite element analysis, strain gauge testing, and destructive testing. Air performance envelopes are verified using on-site and third-party test facilities and the standards of the Air Movement and Control Association. The result is a fan thoroughly engineered for reliable operation.

### Reduced Operating Costs, Quiet Operation

Northern's exhaustive engineering efforts have resulted in fan designs that are among the most efficient available. More efficient fans reduce operating costs and generally reduce the noise associated with fan operation.

### Built Rugged

Northern fans are built to last. Material alloys and gauges are chosen to suit job-defined design criteria and are ordered with material certificates as required by specification. Welding is performed by CWB certified welders working to CSA W47.1 standards, and all fan wheels are dynamically balanced to ANSI S2. Grade 2.5 to ensure smooth fan operation. The entire manufacturing process is performed within the parameters of a rigorous ISO9001 QA program to ensure the finished product will meet the strict demands imposed by our customers.

### Available Features:

Northern's experience providing fan equipment to the power industry has resulted in a vast array of custom options.

- Blade and Housing Liners
- Backstop Clutches
- Bronze Cooling Wheels
- Bearing Temperature Probes
- Code Standard Welding
- Flanged Connections
- Forged Shafts
- Inlet Dampers, Outlet Dampers, Variable Inlet Vanes
- Special Coatings
- Factory Insulation
- Lube Oil Systems
- Mechanical Run Tests
- Rotor Stress Relieving
- Shaft Sleeves
- Sleeve Bearings
- Spacer Couplings
- Split Inlet Cone
- Special Materials Construction
- Stainless Steel Nameplates
- Turning Gear
- Vibration Sensors
- Startup Supervision
- Field Service

### Fan Designs

Northern Blower offers a variety of fan designs to meet customer special requirements:

Series 4000 Backward Curved  
Series 5000 Airfoil SWSI + DWDI  
Series 5000 Backward Inclined SWSI + DWDI  
Series 5700 Industrial Airfoil SWSI + DWDI  
Series 6300 Radial  
Series 6400 Radial  
Series 8800 Radial Tip SWSI + DWDI

Some designs offer static efficiencies up to 88%

Each Northern fan series has been designed to provide highly efficient operating characteristics over a broad range of system conditions. A specific fan can be precisely matched to a system's volume and pressure requirements to provide optimum efficiency and reduced operating costs.

### A Wide Variety of Applications

Custom Fans for:

- Industrial Boilers: Forced & Induced Draft
- NO<sub>x</sub> Reduction: Dilution and Tempering Air
- Waste-to-Energy Plants, Forced & Induced Draft
- Pure Air, Seal Air, Recirculation Applications
- Burner Combustion Air
- Dust Collection

*Size 4025 Design 5730 Industrial Airfoil fan. Forced draft service on an industrial boiler. Arrangement 7S1 dual-drive motor/turbine configuration. Installed in Saskatchewan.*

