

**A L P H A I R**

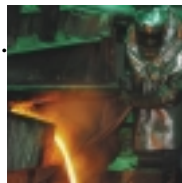
A New Standard of Performance



## New Challenges. New Opportunities.

### Creating an Air of Success

For over 65 years **ALPHAIR** has been a leader in the research, development and production of innovative, reliable and cost effective fans for a broad range of industrial and commercial applications. From a modern, well-equipped 56,000 square foot facility in Winnipeg, Canada, **ALPHAIR** manufactures an advanced series of Centrifugal and Axial fans that meet the specialized needs of industries such as Mining, Pulp and Paper, Petrochemicals, Power Generation, Metals, Cement and others, as well as ventilation products for commercial HVAC and other sectors.

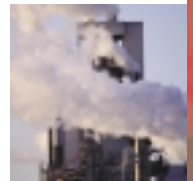


## Experience. Innovation. Service.

### Building on a Commitment to Excellence

Around the world, mines, large industrial complexes and other concerns depend on the high performance and design integrity of **ALPHAIR** equipment. And in each instance, that equipment is the product of an exhaustive process of consultation, engineering and performance testing, all enhanced by an ongoing investment in some of the most sophisticated design software, technology and quality controls to be found anywhere.

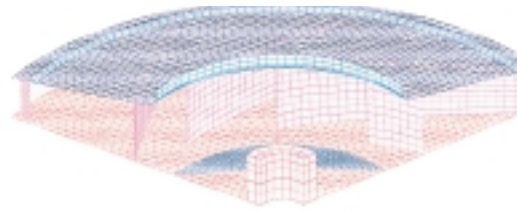
This commitment to consistently high performance standards has contributed to **ALPHAIR'S** growth and success, and is instrumental in ensuring the company's reputation as a dedicated, customer-oriented supplier.



## From Custom Fabrication to Design-Build Production.

**ALPHAIR** has the resources, equipment and skills necessary to effectively and cost-efficiently meet any fan production requirement.

The Fan Design and Engineering process makes extensive use of the most modern computerized design tools, with all drawings created on highly advanced solid modeling and CAD work stations. To further enhance performance and durability, extreme duty fans are checked for stress levels using Finite Element Analysis software. This package can also check on the dynamic response of variable speed fans. As an added service **ALPHAIR** can also provide direct transmission of engineering data to any customer via the internet.



Rotor Finite Element Mesh



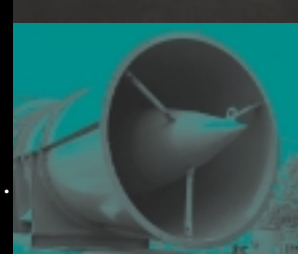
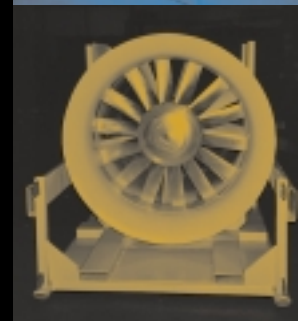
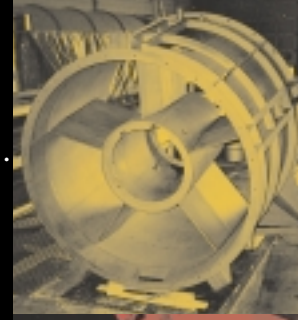
## ALPHAIR Testing Ensures Engineering & Design Excellence

An integral aspect of the **ALPHAIR** Quality assurance program is the rigorous in-house testing and evaluation process through which all equipment must pass.

**ALPHAIR** is a member of the Air Movement and Control Association (AMCA), and subscribes to the stringent testing and rating standards laid out by that organization. To fulfill those requirements, **ALPHAIR** is equipped to conduct performance, sound and vibration testing, along with stress analysis tests on all fan designs in the field and in the factory.

Factory testing is undertaken to support product development and production activities, while field testing is conducted as an added service to **ALPHAIR** customers. Some of the tests that are conducted in accordance with accepted standards and published criteria include:

- |                                     |                |
|-------------------------------------|----------------|
| ▲ Laboratory Tests (with models)    | AMCA 210       |
| ▲ Performance Tests (with models)   | AMCA 802       |
| ▲ Full Size Field Performance Tests | AMCA 803/203   |
| ▲ Sound Level Tests                 | AMCA 300/301   |
| ▲ Mechanical Run Tests              | ALPHAIR TES003 |
| ▲ Vibration Analysis                | ALPHAIR TES004 |
| ▲ Aerodynamic Problem Analysis      | ALPHAIR TES005 |
| ▲ Finite Element Stress Analysis    |                |

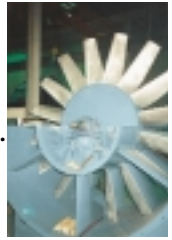




## Exactly the Fan You Need

### The Large ALPHAIR Product Group Meets Every Requirement

ALPHAIR produces two distinct families of fan products, including *Centrifugal* and *Axial* fans. In both cases, each fan is computer selected and pre-engineered prior to quotation.



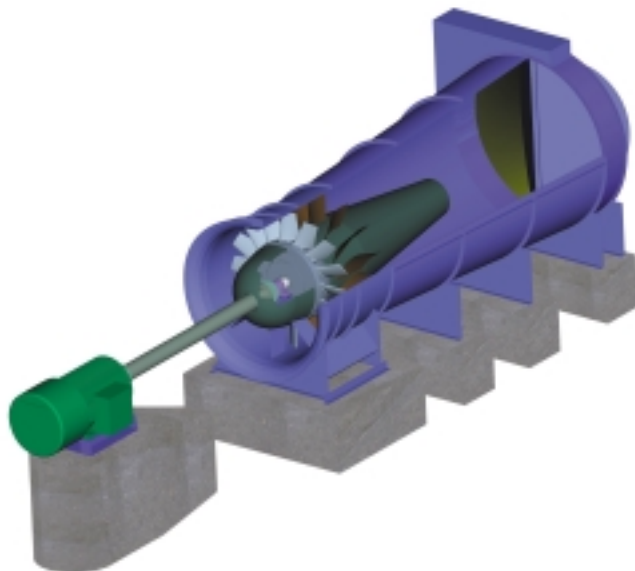
## ALPHAIR

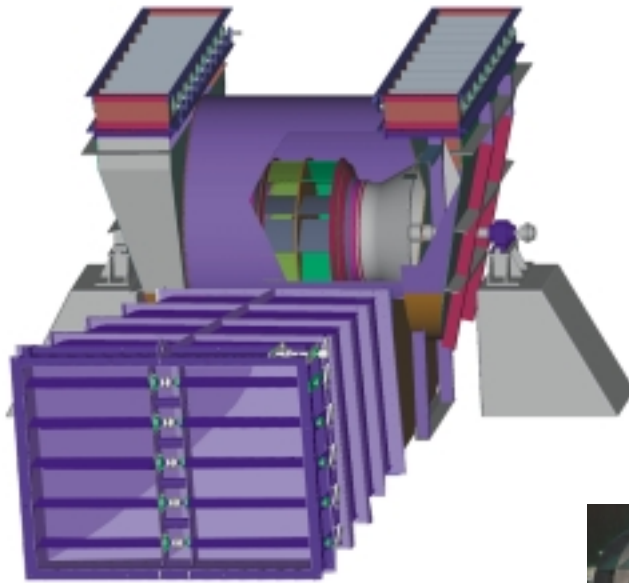
### *Jetstream Series Axial Fans*

ALPHAIR is recognized internationally for the quality and long lasting performance of its *Jetstream Series Axial Fans*.

ALPHAIR is a major developer and manufacturer of custom heavy duty Axial fans for Mining, Industrial and Commercial sectors. The Jetstream Series fans range from 24" diameter medium duty vane axial fans to 148" diameter heavy duty mine ventilation fans. Single and two-stage designs are available which will deliver up to 1,500,000 cfm (705 m<sup>3</sup>/s), and fan total pressures up to 20 in.wg, (500 mm.wg) per stage.

The company supplies complete supply, return and booster ventilation packages that incorporate all necessary components, including fans, raise collar connections, ductwork, heaters and motors. Meeting with customers to gain a concise understanding of their needs, budget, critical path and other factors, ALPHAIR engineers and production staff can develop complete fan systems, as well as design and coordinate the creation of a complete design-build project, including the design and fabrication of foundations, electrical systems, monitoring systems and PLC control systems.





## ALPHAIR

### *Cyclone Series Centrifugal Fans*

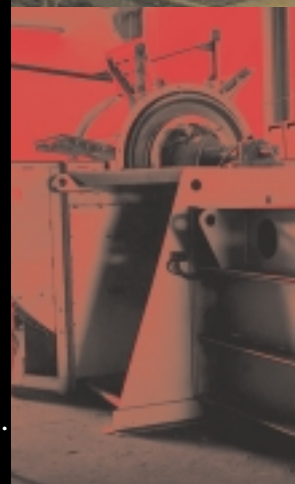
The comprehensive line of **ALPHAIR Cyclone Custom Engineered Centrifugal Fans** are perfectly suited to applications that require moving air at higher pressures or volume, or air that is comprised of hot gases (up to 1000F/540C), corrosive gases or abrasive particulate.

Each Cyclone Series fan is customized to meet a specific set of operating criteria determined by the individual application. Each fan incorporates materials selected for the application, from carbon steels to specialized materials such as stainless steel, aluminum, FRP, and other heat and corrosion resistant alloys.



Within the Cyclone series, **ALPHAIR** has developed six unique Centrifugal Wheel families, each featuring a number of designs widths, and ranging in size from 24" to 120" wheel diameters.

These wheels are engineered to operate at conservative stress levels. The wheels incorporate fabricated or spun shrouds while the rotor designs feature scalloped center plates on large double width fans to reduce weight and inertia. Single and double width designs are rated to airflows up to 1,000,000 cfm (470 m<sup>3</sup>/s) and static pressures up to 130 in. wg. (2,500 mm wg.). The structures are continuously welded to CSA Welding Standard W59.



## Advanced Technology Keeps ALPHAIR First

Beginning with Production Processes, **ALPHAIR** utilizes a broad array of state-of-the-art equipment, including heavy duty manufacturing tools, CNC machine tools, welding machines and burning tables, each of which is vital in the fabrication of industrial fans and blowers, as well as related accessories such as dampers, ducting, elbows and silencers.

These machines, however, are only the tools. The skills and experience of the **ALPHAIR** team of professional engineers is what sets the company apart and gives customers the confidence and assurance to keep coming back.

Each ALPHAIR project is planned and administered under an ISO certified Quality Assurance System.

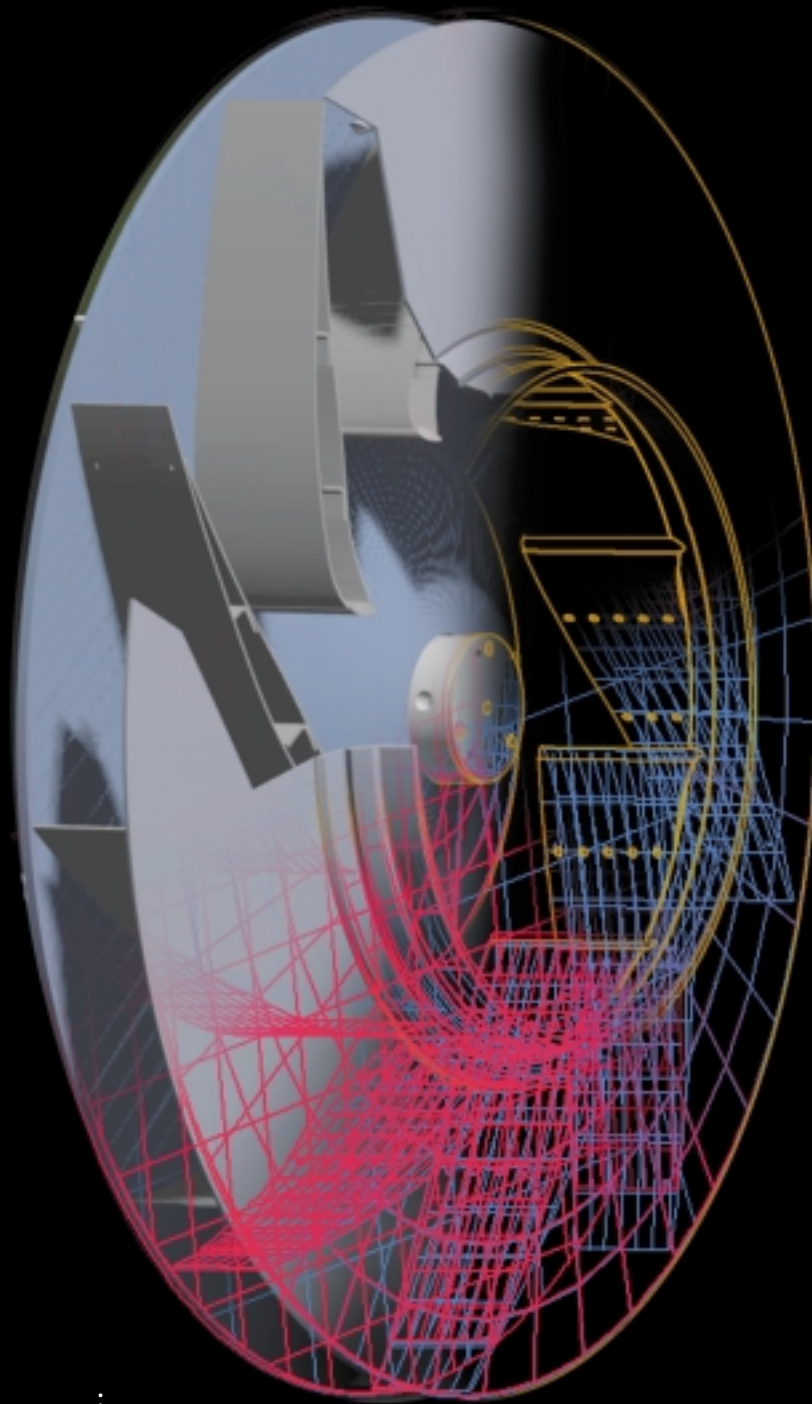
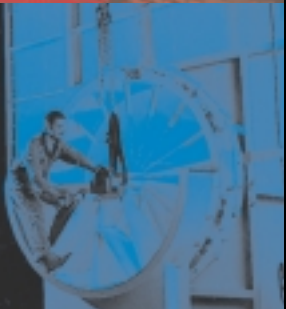
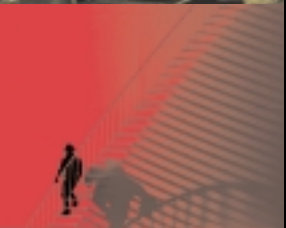
As well as this attention to Quality, **ALPHAIR** is also certified by the Canadian Welding Bureau to CSA W47.1 Division 1 (design), which covers control of welding and materials, and certification of individual welders, supervisors and welding engineers. All welding procedures are in accordance with Canadian Welding Bureau W59 standards.



## Move up to a New Standard of Performance

Design innovation, Engineering integrity, exceptional Quality and committed Customer Service. These traits are incorporated into every project undertaken by **ALPHAIR**, and in every fan or component product shipped. It is this dedication to performance and trouble-free, efficient operation that has made **ALPHAIR** a market leader in heavy duty fans.





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ISO 9002



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Printed in Canada 3/00