



- ✓ Heavy Duty Custom Centrifugal Fans & Blowers
- ✓ Engineered Retro Fits
- ✓ Rotor Rebuilds
- ✓ Performance and Reliability Upgrades
- ✓ Energy & Efficiency Improvements
- ✓ DESIGN – BUILD – INSTALL

**Canadian Buffalo** is a privately held Heavy Duty Industrial Fan Manufacturer located in Guelph, Ontario Canada. Our head office, a 20,000 sq. ft. manufacturing facility is equipped with excellent lifting, fabricating, and in house balancing capabilities. Our manufacturing facility is ISO-9001 registered and is certified by CWB (Canadian Welding Bureau) fabricating to both AWS and CWB standards. Canadian Buffalo is staffed with experienced Professional Engineers and Designers who have a combined experience of well over 200 years in the fan industry, the head office currently employees approximately over 50 dedicated staff including Sales Professionals, Engineers, Designers, Administration, Fabricators, Assemblers and Service Personnel.

Our size and business philosophy enables us to provide a truly custom tailored product for our customers specific requirements. This allows us to go from Customer Order Review to Design to Fabrication with great efficiency saving valuable time with today's fast paced projects, providing a first class quality product with some of the best delivery lead times and competitive pricing in the industry

### Our Manufacturing Plant is:



**CanadianBuffalo.com**  
**1-866-FAN-GUYS**

**Daltec Canadian Buffalo Manufacturing Ltd.**  
**465 Laird Rd., Guelph, Ontario, Canada N1G 4W1**

## Heavy Duty Custom Centrifugal Fans & Blowers

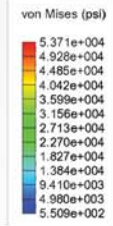
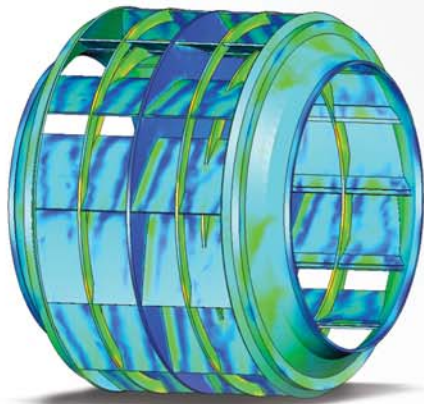
Full line of tested and proven Centrifugal fan types including:

- HD Airfoil for Efficiencies up to 87%
- Backward Curved – 84%
- Backward Inclined – 81%
- Radial Tipped – 75%
- Radial Bladed – 73%
- Open Radial – 64%

Canadian Buffalo's key market strategy and objective is to offer the most efficient equipment selection available that is both conservatively rated and specifically designed for the application considering all process and environmental factors. As power consumption becomes much more costly than the capital cost of the equipment for larger fans, we encourage our customers to provide us with much more information than just the operating points. We look closer at the system to learn more about the process, and any factors that we can address with built in design considerations including the expected time equipment will operate at each of the specified points.



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## Engineered Rotor Retro-fits, Rebuilds, and Repairs

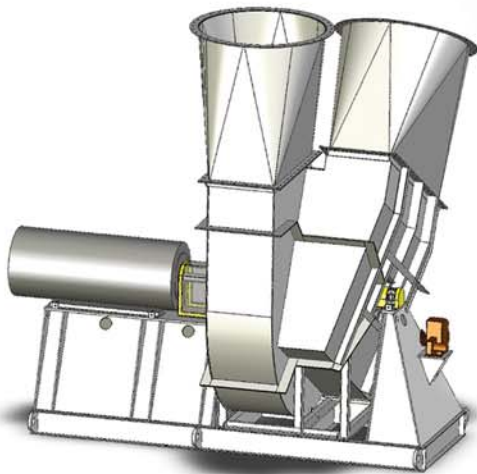
No matter the industry fans play an important role in the process. Often they are the critical item in the system, a system that simply cannot be allowed to go down for any extended period of time. But, severe applications as often found in Steel Mills, Cement Plants and many other industries do lead to fan failures due to erosion, corrosion and fatigue.

Rebuilding or repairing can be a fast and economical means to overcome the difficulties of the breakdown; often upgrades can be incorporated into the repair, which will allow for extended and more efficient operation.

We utilize the latest in CAD and FEA technology to model the Fan, and Impeller calculating stress levels and optimizing material selections. We can perform a frequency analysis to ensure natural frequencies are well removed from operating speeds and other sensitive frequencies like a 2x and blade pass. This is also confirmed by a *Bump* test in the shop after fabrication. We solve complex fan problems and utilize Fan Systems by considering all components in the system including modeling the entire rotating assembly including the bearing pedestals to determine the system design resonant speed, and performing a Torsional Analysis of the complete drive train. This ensures a safe, reliable, and trouble free installation.

It is extremely important to find a source of expertise as it relates to fan Rebuild, Repair and Retrofit, so that when a breakdown does occur, the client has the confidence to know that the company hired will fix the problem in a fast, efficient and professional manner.

**Canadian Buffalo...is that source.**



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## Rebuild - to reconstruct to original condition

Whether it is Canadian Buffalo's original product or the product from another fan manufacturer, Canadian Buffalo can provide a full range of rebuild services, including:

- Site visits to ascertain the best course of action.
- On site inspection of the fan components to determine which items may require rebuilding.
- Full engineering capabilities.
- NDT testing.
- Welding and Quality Assurance to internationally recognized standards.
- Emergency breakdown services.
- Static and Dynamic balancing to the lowest tolerances.
- In place Repair and Rebuilding.

Canadian Buffalo can provide rebuild on any type of fabricated centrifugal or axial impellers. Centrifugal wheel designs include:

- Radial Bladed
- Airfoil
- Backward Curved
- Backward Inclined
- Radial Tipped
- Forward Curved

Materials of construction include:

- Low Carbon Steels
- High Nickel Alloys
- High Carbon Steels
- Titanium Alloys
- Stainless Steels
- Quenched and Tempered Steels
- Chromium or Tungsten Carbide Overlay Materials

The integrity of new, repaired and rebuilt fabrications is constantly checked using the latest in Non Destructive testing methods. Canadian Buffalo utilizes the following ND tests, as it is necessary, to guarantee a sound and fit product:

- Dye Penetrant testing
- Magnetic Particle testing
- X-Ray
- Model testing

Critical welds on a rebuilt high stress impeller are dye penetrant tested to ensure the integrity of the weldments.

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## Repair - to make whole again, restore after damage

Casings, Impellers, Shafts, Dampers and all other fan components can be repaired to as new condition using the latest in manufacturing standards. Canadian Buffalo is a CWB certified welding shop. We utilize the latest in CAD/CAM technology and manufacturing techniques, which allows us to perform and complete all the necessary tasks, for any given repair in an efficient and timely manner.

## Engineered Retro-fit - to modify to include improvements in design and use

- Installing higher efficiency wheels in same casing
- Increased throughput using "Tipping" techniques
- Installing additional wear protection for increased life
- Evaluate bearing selection, resolving bearing failure issues
- Efficiency Improvements
- Resizing impeller for actual operating conditions versus original design or test block

Canadian Buffalo can recommend improvements to the fan assembly or its components, which will allow the customer to increase his product throughput or allow an increase in the life expectancy of the fan components. This is done with the use of a range of tools available, including:

- Finite Element Analysis
- Fatigue Analysis
- Critical Speed Analysis
- Model Testing

For every Rebuild and Retro-fit our engineering department develop computer models of the critical components using the above methods. This allows a determination of what is required to make improvements in design while confirming the structural integrity of the element.

Canadian Buffalo looks at the complete fan assembly when determining what improvements can be made to the original design to increase efficiency or life expectancy of the various components.

Extensive use of the latest in computer modeling techniques, including Finite Element Analysis, guarantees the integrity of the rotating elements.

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