IMPACT GROUP

Green Engineers to the Planet

Impact Cooling Solutions

Energy Efficient Axial Flow FRP Fans

Impact Cooling Solutions incorporates the latest techniques in design and manufacture of one of the most energy efficient Axial Flow Fans in the world. 'Impact' Fans incorporate a carefully designed airfoil that is **custom built** for specific duty conditions and not based on a 'one-size-fits-all' methodology. The **low-drag airfoil** shape, high blade twist, wide chord width and superior surface finish result in high levels of efficiency and performance of the fan. The fan design is made to ensure low noise levels. The aerodynamically designed FRP Fan blades therefore are an excellent alternative to achieve substantial power savings and monetary advantages.

Seamless and **hollow** construction ensures durability. The Fan blades are made of light weight and corrosion-resistant **Fibreglass Reinforced Plastics** (FRP) from polyester or epoxy resin depending on their application. The light weight of the FRP Fans ensures a low moment of inertia resulting in lower wear and stress on the motor, bearings and the drive system. 'Impact' Fans are built with a 'Manually Adjustable Pitch' feature for optimal use of the fan system.

Applications

- Cooling Towers
- Air Cooled Heat Exchangers / Condensers
- Humidifiers
- Mine Ventilation
- Radiators
- Industrial Ventilation and Exhaust
- Withering Troughs in Tea Industries

Industries Served

- Power Plant
- Chemical & Process
- Petrochemical / Refinery
- Fertilizer Plant
- Cement
- HVAC
- Pharmaceutical
- Textile
- Food Processing
- Steel Plant
- Mining
- Oil / Gas Production, Processing & Transportation
- Tea Withering

Why 'Impact' Axial Flow FRP Fans?

Design: 'Impact' Fans are designed by utilizing the latest aerodynamic profiles. The fans' tapered and twisted airfoil design results in high efficiency. The hollow-blade, seamless designs are custom built and unique for specific duty conditions.

Energy Efficient: More air with less power means less operating costs. 'Impact' Fans provide 10-40% power savings as compared with other metallic / GRP Fans. Installation of 'Impact' Fans in newly constructed equipment reduces initial equipment costs along with operational costs.

Light Weight: 'Impact' Fans are light weight and hollow and allow easy handling and maintenance, resulting in less down time. Furthermore, the life of the gear box, motor and bearings are extended due to a reduction in the moment of inertia.

Tough: FRP construction of 'Impact' Fans with an intelligent, seamless lay-up pattern provides resilient, dependable blades with high fatigue strength. Impact blades have stood the test of extreme conditions like cyclones and high wind loads. Our 10 year old blades withstood wind loads of **135 mph winds** in Vizag, India without need for replacement even when the surrounding infrastructure had all blown away.

Low Noise: 'Impact' fans' unique airfoil design reduces the operational fan noise level considerably compared to conventional metallic / GRP Fans.

Corrosion & Erosion Resistance: The fibreglass reinforced epoxy or polyester material, makes fan blades immune to corrosion. The fan blades have built-in leading edge protection that prevents erosion from impinging water droplets or other environmental attacks. The hub assemblies are built with materials selected considering specific duty conditions and environment and last for years of trouble free service.

Durability: 'Impact' FRP Fans have a very high strength to weight ratio compared to similar products available due to the intelligent FRP lay-up pattern. Thousands of our fans are working tirelessly worldwide, delivering air efficiently, without the need to replace or repair over the years.

Vibration Free: 'Impact' Fan blades are 'moment balanced'. Fan hubs are dynamically balanced per ISO standards and Fan assemblies are statically balanced to ensure vibration-free operation for years.

How to Select a Fan?

Select the appropriate 'Impact' Fan model from our Technical Catalog or Fan Selection Software that best suits your particular Fan Duty Requirements. Alternatively, you may contact our Sales Department for assistance. Please provide the following information when requesting a Fan model recommendation:

- Application / Equipment
- Fan Diameter
- Required Airflow
- Static Pressure
- Fan RPM
- Motor kW/HP
- Operating Temperature
- Elevation above Sea Level
- Gear Box / Pulley Type & Ratio
- Shaft Bushing Details
- Fan Stack / Casing Details
- Inlet Shape

Fan Technical Specifications

Performance & Operating Ranges

Fan Diameter	: 2 ft. to 60 ft.
No. of Blades	: 3 to 12
Air Flow	: 10,000 to 3,200,000 cfm
Pressure	: 0.005 to .232 psi
Speed	: 65 to 2500 RPM
Power Rating	: 1 to 1300 HP
Operating Temp.	: -40F to 248F

Standard Features

- Built-in Leading Edge Protection
- Ultraviolet Protection
- FRP Seal Disk
- Standard taper lock bushing or center bush as per user's requirement

Material of Construction

MOC of various components is governed by application and can be customized to suit end use. Standard MOC is as follows:

Blades	: Fibreglass Reinforced Plastic using Polyester or Epoxy Resins. Fire Retardant construction of fan blades on request.
Hub Plates	: Hot Dipped Galvanized Mild Steel or as per user's specifications
Blade Holding Blocks	: Cast Aluminum Alloy Grade LM-6 or Cast Iron Grade FG200
Seal Disk	: Fibreglass Reinforced Plastic
Fasteners	: SS-304
Center Bush	: Cast Iron Grade FG200

- Fan Selection Software is available on request.
- For any specific duties, application, sizes or special material of construction that are not covered in above range, please contact us.
- Specifications are subject to change without prior notice.

Since 1987

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