



## Universal Fan & Blower Ltd.

### CFIC – Inline Centrifugal Fan

- Fans to be FRP composite construction inline centrifugal model **CFIC** as manufactured by **Universal Fan & Blower Ltd.** and shall be fabricated in accordance with ASTM Standard Specification D4167-97 (re-approved 2002) for Fiber Reinforced Plastic Fans & Blowers.
- The fan housing shall be of solid FRP composite construction, fabricated using corrosion grade resin. A glass veil will be used on all airstream surfaces to give a resin rich liner for optimum chemical resistance. The inner module shall be totally enclosed to protect the fan bearings and supported to the housing by means of solid FRP guide vanes. Fasteners shall be 316ss. Where exposed to the airstream will be embedded in the FRP laminate to achieve maximum torque capability with no deviation of the airstream surfaces. The housing shall be supplied with undrilled inlet & outlet flanges and structurally reinforced by FRP ribs which run the full length of the housing from flange to flange.
- Fan wheel shall be backward inclined design and solid FRP construction. The wheel shall be positively locked onto a stepped shaft by means of a 316ss retaining plate, which is protected from the airstream by FRP encapsulation. [Taperlock bushings are not acceptable.]. The wheel shall be balanced statically and dynamically as per ANSI/AMCA Standard 204.05 Balance Quality & Vibration Levels for Fans to grade G 6.3.
- Solid FRP fan inlet funnel shall be a venturi design interfacing with the wheel cone to maximize aerodynamic efficiency.
- Shaft will be 316ss accurately turned and ground. Sized so that the first critical speed is a minimum of 1.35 times the maximum operating speed.
- Shaft Seal shall be precision cut Teflon for a close tolerance fit to the fan shaft, encased within an FRP seal box with encapsulated 316ss fasteners.
- Bearings shall be pillow block design. Selection based upon AFMBA  $L_{10}$  minimum life of 40,000 hrs or an average life of 200,000 hrs. Bearings shall be equipped with extended lubrication lines with grease fittings on the outside of the fan housing.
- The exterior of the fan housing shall have a grey gel coat finish containing U.V. inhibitor to prevent ultra violet light degradation. Prior to shipment all fans shall be mechanically test run and trim balanced to ensure vibration levels are in keeping with ANSI/AMCA Standard 204.05.
- Performances shall be based on tests made in accordance with AMCA Standard 210 and as stated on the fan schedule. Motor horsepower indicated shall be the minimum size acceptable.

*Note: The addition of UFBL Features to the standard fan will amend the specification accordingly*