



## Universal Fan & Blower Ltd.

### FUBB - Upblast Roof Exhauster

- Fans to be solid FRP composite construction upblast roof exhauster model **FUBB** as manufactured by **Universal Fan & Blower Ltd.** and shall be fabricated in accordance with ASTM Standard Specification D4167-97 (reapproved 2002) for Fiber Reinforced Plastic Fans & Blowers and CGSB 41-GP-22 Standard for Process Equipment.
- The fan housing utilizes the model FTAB and shall be of solid FRP composite construction, fabricated by open molded methods using vinyl ester resin and glass reinforcements. Glass veil will be used on all airstream surfaces giving a resin rich liner for optimum chemical resistance. Reinforcing flanges shall run the external length of the housing to provide additional strength. The housing shall incorporate integral FRP moulded saddles with 316 stainless steel studs cast in place to support a height adjustable motor plate for drive tensioning. The housing shall be flanged for direct connection to the curb cap and stackhead.
- An FRP composite stackhead, constructed in a similar method as the fan section and flanged for connection to the fan section will incorporate reinforcement flanges to minimize wind effect and FRP butterfly dampers suitably positioned to withstand snow loading. An FRP rain trough which will prevent ingress of rain with the dampers in the closed position.
- An FRP curb cap shall have stiffening gussets to the fan section for use as assembly lifting eyes.
- The fan wheel hub and blades shall be of solid FRP composite compression molded vinyl ester resin and glass reinforcement construction. The blades being a true airfoil design to maintain aerodynamic efficiencies. The wheel shall be positively locked onto the shaft by means of a 316ss retaining plate. [Taperlock bushings are not acceptable.]. Wheel shall be statically and dynamically balanced per ANSI/AMCA Standard 204.96 Balance Quality & Vibration Levels for to grade G 6.3.
- Shafts will be 316ss accurately turned & gauged for accuracy and 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 sized to have a minimum life of 50,000 hours based on AFMBA L<sub>10</sub> standard. Bearings shall be equipped with extended lubrication lines with grease fittings on the outside of the fan housing.
- All fasteners must be 316 stainless steel construction.
- The exterior of the fan 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 204.96.

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