

## SECTION 15820

### FANS

#### PART 1 - GENERAL

- 1.1 Conform to an bear AMCA certified rating seal.
- 1.2 Do not operate fans for any purpose, temporary or permanent, until ductwork is clean, filters in place, bearings lubricated and fan has been run under observation.
- 1.3 Equivalent fan selections shall not decrease motor horsepower (wattage), increase noise level, increase tip speed by more than 10%, or increase inlet air velocity by more than 20%, from that specified.
- 1.4 Some sound level rating shall not exceed those shown on plans and shall be rated at 5-foot distance according to AMCA Standards.
- 1.5 Fan motors to be equipped with permanently lubricated ball bearings. Three phase motors to be squirrel cage induction type. Single-phase motors shall be permanent split capacitor type. Single-phase motors 1/10 horsepower may be shaded pole design with sleeve bearings. Motors shall not draw more than rated amperage at any conditions shown in manufacturers published data. All fans to be statically and dynamically balanced.
- 1.6 Shutters, heavy duty, with vertical linkages on each end. Blades: felted aluminum. Hinge pins: rattle free nylon type. Shutter frame external dimensions to exactly match fan panel dimensions.
- 1.7 **FAN GUARDS:** Close mesh industrial safety type (shall not pass 3/4" ball between bars).

#### PART 2 - PRODUCTS

- 2.1 **POWER ROOF VENTILATORS:** Type as drawn, with spun aluminum housing, aluminum blade or wheel, disconnect, gravity shutter, pre-fabricated roof curb and bird screen. Belt drives shall be variable pitch-sized for 165% of motor horsepower with oil-resistant, non-static, non-sparking belt and permanently sealed and lubricated 200,000 hour ball bearings. Mount drive assembly on rubber vibration isolators. Direct drive units shall be similar except belts are not required. Centrifugal type to have non-overloading wheels with motors located outside air stream and ventilated with outside air. Propeller type shall have totally enclosed motors.

- 2.3 **INLINE FANS:** Backward curved centrifugal type, with spun cone inlet, motor isolated from air stream or outside fan casing, adjustable drive for belted model, with belt protected from exhaust air, pillow block bearings for any direction mounting, epoxy protected steel housing with access to fan wheel, motor, pulleys and belt.
- 2.4 **ROOF CURBS:** 12 gauge double wall galvanized steel, water tight. 1-1/2" - 3-pound density, 1-1/2" thick fiberglass insulation, minimum 12" high sides, flashing to match metal roof when applicable.

### **PART 3 - EXECUTION**

- 3.1 Set roof mounted fans on level curb and bolt to curb. Attach indoor fans to structure.

END OF SECTION