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**GUIDE SPEC**  
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## **SPECIFYING BELT DRIVE TUBULAR ACOUSTAFOIL® FANS**

### **GENERAL**

The fans shall be capable of operating over the entire class range in accordance with the equipment schedule and as defined in AMCA Standard 99-2408. Fans shall be size \_\_\_\_ as designed and manufactured by The New York Blower Company. Fan wheels shall be centrifugal with non-overloading airfoil blades in all sizes. Flat, single thickness blades are not acceptable. Unless otherwise directed, fans shall be in compliance with the layout shown on the drawings.

### **PERFORMANCE**

Fan ratings shall be based on tests made in accordance with AMCA Standard 210 in an accredited AMCA laboratory. Fans shall have a sharply rising pressure characteristic extending throughout the operating range to assure quiet and stable operation from wide open to closed off. Fan brake horsepower shall be equal to or less than \_\_\_\_\_ BHP at \_\_\_\_\_ inches static pressure and \_\_\_\_\_ CFM at \_\_\_\_\_ density.

### **SOUND**

Fan manufacturers shall provide sound power level ratings for fans tested and rated in accordance with AMCA Standards 300 and 301. Tests shall be performed in an accredited AMCA laboratory. Sound power ratings shall be in decibels (reference 10<sup>-12</sup> watts) in eight octave bands. Sound power levels will be corrected for installation by the specifying engineer...dBA levels only are not acceptable.

### **CONSTRUCTION**

Fan housings are to be heavy gauge tubular design, continuously welded construction. Housings of square design, lock seams or sheet metal panel construction are not acceptable. Inlet cone shall be aerodynamically designed and spun providing a minimum separation of air flow. Wheel diameters and outlet areas shall be in accordance with the standard dimensions adopted by AMCA for tubular centrifugal fans. Designs not in accordance with AMCA Standard 99-2411 are not acceptable.

### **BEARINGS**

Bearings are to be grease lubricated, precision anti-friction ball or spherical roller, self-aligning, pillow block design. Bearings for Class I shall be designed for a minimum L-10 life of 50,000 hours (250,000 hour L-50 life) when rated at the fan's maximum cataloged operating speed. Bearing for Class II and III fans shall be designed for an average minimum L-10 life in excess of 750,000 hours when rated at the fan's maximum cataloged operating speed. Bearing lubrication lines and grease fittings are to be extended to the outer tube wall for easy accessibility.

### **SHAFT**

Shafts are to be ASTM A-108 steel, grade 1040/1045, precision turned, ground and polished. Grade 1018 steel is not acceptable. The shaft's first critical speed shall be at least 125% of the fan's maximum operating speed for each fan class.

### **PAINT**

All fan surfaces are to be thoroughly prepared prior to painting using a combination of washing and hand and power tool cleaning as required. After cleaning, all surfaces are to be coated with an industrial grade alkyd enamel. Surfaces of bolted components not accessible after assembly shall be coated and allowed to dry prior to final assembly. Primer only will not be accepted.

### **BALANCE AND RUN TEST**

All fan wheels shall be dynamically balanced on precision balancers. Prior to shipment, completed fans with motors shall receive a final test balance at the specified operating speed.

### **ACCESSORIES**

Accessories shall be provided as called for in the plans and specifications.

Required accessories include:

- Access - Quick Opening Cleanout Door - Easy Access Construction
- Drain
- Flanged Outlet
- Shaft Seal - Ceramic Felt - Teflon® - Buna - Viton®
- Outlet Companion Flange
- Flanged Inlet
- Inlet Companion Flange
- Internal Inlet-Vane Damper
- Heat-Fan Construction 200° F.
- Spark-Resistant Construction - AMCA B - AMCA C
- Safety Equipment - Belt Guard - Inlet guard
- Weather Cover
- Stack Hood
- Curb Cap
- Vibration Isolation - Spring - Rubber-In-Shear
- V-Belt Drive - Variable Speed - Constant Speed

### **FINAL INSPECTION**

All fans shall receive a final inspection by a qualified inspector prior to shipment. Inspection to include: fan description and accessories, balance, welding, dimensions, bearings, duct and base connection points, paint finish and overall workmanship.

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