

SECTION 23 34 00 HVAC FANS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. The fan is the model scheduled with the capacities indicated. The fan shall be furnished with OSHA-compliant guards, a locking position mechanism for rotational adjustments, and a multiple speed controller.
- B. Summary of Work
 - 1. Installation of the fan, miscellaneous metal work (if required), field electrical wiring, cable, conduit, fuses and disconnect switches, other than those addressed in the installation scope of work, shall be provided by others. Factory installation services are available through Big Ass Fans. Consult the appropriate installation scope of work for information on the available factory installation options, overview of customer and installer responsibilities, and details on installation site requirements.

1.2 RELATED REQUIREMENTS

- A. 23 00 00 Heating, Ventilating, and Air Conditioning (HVAC)

1.3 REFERENCE STANDARDS AND ACRONYMS

- A. International Organization for Standardization (ISO)
- B. Occupational Safety and Health Administration (OSHA)
- C. Underwriters Laboratories (UL)

1.4 SUBMITTALS

- A. Shop Drawings: Drawings detailing product dimensions, weight, and attachment methods.
- B. Part 2 Product Data: Specification sheets specifying electrical and installation requirements, features and benefits, and controller information.
- C. Revit Files: File provided for architectural design
- D. Part 2 Product Documentation: The manufacturer shall furnish a copy of all installation, operation, and maintenance instructions for the fan. All data is subject to change without notice.
- E. Schedule

1.5 MANUFACTURER QUALIFICATIONS

- A. The manufacturer shall be ISO 9001-certified.
- B. The manufacturer shall have more than 10 years of specialized experience in the field of high volume low speed industrial fans.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver product in original, undamaged packaging with identification labels intact. The fan shall be new, free from defects, and factory tested.
- B. The fan and all of its accessories must be stored in a safe, dry location until installation.

1.7 MANUFACTURER WARRANTY

- A. The manufacturer shall replace any products or components defective in material or workmanship, free of charge to the customer (including transportation charges within the USA, F.O.B. Lexington, KY), pursuant to the complete terms and conditions of the Big Ass Fans Non-Prorated Warranty in accordance to the following schedule:

Hub and airfoils	Lifetime (parts) [†]
Motor and controller	3 years (parts)
All other fan components	3 years (parts)
Refurbished units	6 months (parts)

[†] "Lifetime" means a period ending seven (7) years after Big Ass Fan Company discontinues manufacturing the product, as such period is defined by Big Ass Fans.

PART 2 PRODUCT

2.1 MANUFACTURER

- A. Delta T Corporation, dba Big Ass Fans, PO Box 11307, Lexington, Kentucky 40575. Phone (877) 244-3267. Fax (859) 233-0139. Website: www.bigassfans.com.

2.2 DESCRIPTION

- A. Complete fan assembly
1. Function: The fan shall be designed for portable use or adaptable mounting in spaces requiring localized air movement.
 2. Color: The fan's standard color shall be yellow. A white appearance package shall be available as an option.
 3. Optional feature: The fan shall have an oscillator available as an option to be selected at the time of order. Not all mounting systems are compatible with this option; consult the installation guide for details.
 4. Quality: The fan shall display good workmanship in all aspects of its construction.
- B. Motor
1. The fan shall be equipped with an electrically commutated motor (ECM) rated at 0.5 Hp, 1160 RPM, 100-125 V, 1 ϕ , and 50/60 Hz or 200-250 V, 1 ϕ , and 50/60 Hz.
 2. The motor shall have an operational temperature range of -40°F to 122°F (-40°C to 50°C).
- C. Motor Frame: The fan motor frame and mount shall be constructed of powder coated steel.
- D. Hub: The fan hub shall be precision cast aluminum for high strength, light weight, and resistance to corrosion.
- E. Blade System: The fan shall be equipped with 3 progressive pitch nylon blades.
- F. Cage and Housing
1. The fan shall be equipped with a rugged cage and housing to protect both the fan and users during operation.
 2. The fan cage and housing shall be OSHA-compliant.
 3. Fan guards shall be of welded wire construction using steel no less than $\frac{1}{8}$ " (0.3 cm) thick, and shall be easily removable for servicing and cleaning of the fan.
 4. The fan housing shall be constructed of vibration-damping high density polyethylene.
 5. The fan airflow angle shall be easily adjustable by means of a position locking pin and plate mechanism on the cage and housing.
- G. Controller
1. The fan shall be equipped with an onboard controller that turns the fan on/off and features 10 different speed settings from 300-1300 RPM.
 2. The controller shall be IP45-rated and UL-listed, and shall be shipped with a pre-wired 10' (3 m) power cord and plug.
 3. The controller shall be preassembled to operate from a 100-125 V, 50/60 Hz power supply, and can be converted in the field to operate on 200-250 V, 50/60 Hz.
 4. A remotely mounted controller shall be available as an optional accessory to operate a fan that is mounted in an inaccessible location. A cable 15' (4.6 m) in length shall be provided with the remotely mounted speed control; however, the control can be mounted up to 50' (15.24 m) from the location of the fan using customer-supplied cable.
- H. Mounting System
1. The fan shall admit multiple mounting methods to accommodate a wide variety of airflow needs and building structures.
 - a. Portable Base: The portable base allows the fan mobility around a workspace to create airflow where it is needed most. The portable base shall include an ergonomic handle, rubber stoppers and two 8" (20 cm) shatter resistant rubber wheels for indoor and outdoor mobility. The fan may be secured directly to the portable base or may be mounted on one or two 18" (46 cm) pedestals, for a maximum height of 36" (91 cm) above the base.
 - b. Yoke Mount: The fan can be mounted to bar joists and horizontal I-beams using the Yoke Mount and customer-supplied hardware. I-beams must have a flange thickness between $\frac{1}{8}$ " (3.2 mm) and 1-7/16" (36.5 mm).
 - c. Wall/Column Mount: The fan can be mounted to a wall or column using the Wall/Column Mount and customer-supplied hardware. The column can be one of a variety of shapes, e.g., round, flanged, square.

- d. Suspension Mount: The fan can be hung from a metal or wood superstructure or a concrete ceiling using the Yoke Washer Assembly Kit with a customer-supplied chain or cable and appropriate hardware.
2. The manufacturer-supplied mounting assembly shall be of welded construction using steel no less than ½" (0.3 cm) thick and shall be powder coated for appearance and resistance to corrosion.
3. A safety cable shall be supplied for the Yoke Mount and Wall/Column Mount. Field construction of safety cables is not permitted.
4. Hardware used to mount the fan must be of sufficient strength and quantity to support the weight of the fan and its method of attachment. Consult the installation guide for details. For mounting hardware supplied by Big Ass Fans, no hardware substitutions, including cast aluminum, are acceptable.

PART 3 EXECUTION

3.1 PREPARATION

- A. The fan location must be free of obstacles such as lights, cables, and other building components.
- B. Refer to the installation guide for clearance requirements and electrical requirements.
- C. Structural requirements: Consult a structural engineer to determine the hardware required to safely support the fan from a wall, column, or concrete ceiling. Refer to the installation guide for details.
- D. Two installation personnel may be required, along with a scissor lift or other suitable means for lifting the weight of the fan.

3.2 INSTALLATION

- A. The fan shall be installed according to the manufacturer's installation guide. Big Ass Fans recommends consulting a structural engineer for installation methods outside the manufacturer's recommendation and a certification, in the form of a stamped print or letter, submitted prior to installation.

END OF SECTION