

SECTION 15832

AIR CURTAINS, INDUSTRIAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Standard Models.
- B. High Velocity Models.
- C. Extra Power Models.
- D. WindGuard Models.
- E. Extra High Velocity Models.
- F. Extra High H Velocity Models.

1.2 RELATED SECTIONS

- A. Section 08110 - Steel Doors and Frames.
- B. Section 08330 - Coiling Doors and Grilles.
- C. Section 08500 - Windows.
- D. Section 08580 - Pass Windows.
- E. Sections of Division 16 affecting, or affected by, construction activities of this section.
- F. Sections of Divisions 15 and 16 affecting, or affected by, construction activities of this section.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's descriptive literature for products specified in this section; indicate options specified.
- C. Shop Drawings: Indicate installation and connection details.
- D. Quality Assurance Submittals:
  - 1. Certificates: Indicate compliance to Regulatory Requirements specified in QUALITY ASSURANCE Article of this section.
  - 2. Manufacturer's instructions: Printed installation instructions for each specified product.

- E. Closeout Submittals:
  - 1. Operation and maintenance data: Manufacturer's printed instructions for operating and maintaining air curtain components.
  - 2. Warranty documents: Issued and executed by manufacturer.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum five years documented experience producing respective products specified in this Section.
- B. Regulatory Requirements: Product compliance with the following regulatory agencies:
  - 1. Underwriters Laboratories listing.
  - 2. National Electrical Code.
  - 3. United States Food and Drug Administration.
  - 4. United States Department of Agriculture.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain dry, heated storage area for products of this section until installation of products.

#### 1.6 WARRANTY

- A. Manufacturer's Warranty: Supply manufacturer's standard warranty against defects in product workmanship and materials.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Mars Air Doors, 14716 South Broadway, Gardena CA 90248; ASD. Tel: (213) 770-1555 or (800) 421-1266; Fax: (310) 324-3030.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.

#### 2.2 MANUFACTURED UNITS

- A. Air Curtains:
1. Acceptable Product: Mars Model Number \_\_\_\_\_.
  2. Product Description: Self-contained electrically-operated air curtain for mounting at head of openings.
  3. Housing:
    - a. Welded metal, with factory-drilled mounting holes at each end for back wall mount.
    - b. Welded stainless steel, with factory-drilled mounting holes at each end for back wall mount.
    - c. Air direction vanes, adjustable +/- 20 degrees front to back.
    - d. Fixed die-punched louver assembly.
    - e. Expanded metal inlet screen.
    - f. Adjustable inlet louver damper, reducing air velocity up to 50 percent; field adjustable.
    - g. Color: Gray baked rust preventative, electrostatic polyurethane powder coating.
  4. Blower Assembly: Belt-drive, double-width and double-inlet squirrel cage blower wheels, producing minimum velocity \_\_\_\_\_ feet per minute (\_\_\_\_\_ m/sec) at 3 feet (0.914 m) above floor with maximum opening height of 14 feet (4.267 m).
  5. Blower Assembly: Direct-drive, double-width and double-inlet squirrel cage blower wheels, producing minimum velocity \_\_\_\_\_ feet per minute (\_\_\_\_\_ m/sec) at 3 feet (0.914 m) above floor with maximum opening height of 14 feet (4.267 m).
  6. Motors: Single \_\_\_\_\_ horsepower, maximum \_\_\_\_\_ revolutions per minute, \_\_\_\_\_-speed.
  7. Motors: Two \_\_\_\_\_ horsepower, maximum \_\_\_\_\_ revolutions per minute each, \_\_\_\_\_-speed.
  8. Motors: Three \_\_\_\_\_ horsepower, maximum \_\_\_\_\_ revolutions per minute each, \_\_\_\_\_-speed.
  9. Motors: Four 1/2 horsepower, maximum \_\_\_\_\_ revolutions per minute each, \_\_\_\_\_-speed.
  10. Door-Activated Microswitch: Supply microswitch for automatic on/off control; turns air curtain on when door is opened and off when door is closed; field installed.
    - a. Type: Plunger.
    - b. Type: Roller.
  11. Operating Noise Level: \_\_\_\_\_ decibels on A scale, measured from interior, 10 feet from unit.
  12. Utility Requirements: \_\_\_\_\_ Volts AC, \_\_\_\_\_-phase, \_\_\_\_\_ Ampere(s).
- B. Air Curtains:
1. Acceptable Product: Mars Model Number E \_\_\_\_\_.

2. Product Description: Self-contained electrically-operated air curtain for mounting at head of openings.
  3. Housing:
    - a. Welded metal, with factory-drilled mounting holes at each end for back wall mount.
    - b. Welded stainless steel, with factory-drilled mounting holes at each end for back wall mount.
    - c. Removable inlet screen.
    - d. Air direction vanes, adjustable +/- 20 degrees front to back.
    - e. Color: Gray baked rust preventative, electrostatic polyurethane powder coating.
  4. Blower Assembly: Direct-drive, double-width and double-inlet squirrel cage stainless steel blower wheels, producing minimum velocity 1600 feet per minute at 3 feet above floor with maximum opening height of 14 feet.
  5. Motors: UL-listed, heavy duty, direct drive, continuous duty type, totally enclosed with double-sealed lifetime pre-lubricated ball bearings, resilient mounted and protected by an automatic thermal overload switch; on-off control switch.
  6. Motors: UL-listed, two-speed, heavy duty, direct drive, continuous duty type, totally enclosed with double-sealed lifetime pre-lubricated ball bearings, resilient mounted and protected by an automatic thermal overload switch; on-off control switch.
  7. Motors: UL-listed, explosion-proof, heavy duty, direct drive, continuous duty type, totally enclosed with double-sealed lifetime pre-lubricated ball bearings, resilient mounted and protected by an automatic thermal overload switch; on-off control switch.
    - a. Quantity per Unit: \_\_\_\_\_.
    - b. Horsepower: \_\_\_\_\_.
    - c. Revolutions per Minute (RPM): \_\_\_\_\_.
  8. Door-Activated Microswitch: Supply microswitch for automatic on/off control; turns air curtain on when door is opened and off when door is closed; field installed.
    - a. Type: Plunger.
    - b. Type: Roller.
  9. Operating Noise Level: \_\_\_ decibels on A scale, measured from interior, 10 feet from unit.
  10. Utility Requirements: \_\_\_ Volts AC, \_\_\_\_\_-phase, \_\_\_ Ampere(s).
- C. Heavy-Duty Belt-Drive Air Curtains:

1. Acceptable Product: Mars WindGuard(tm) Model Number BD-\_\_\_\_-\_\_\_\_-\_\_\_\_\_.
  2. Product Description: Self-contained electrically-operated air curtain for mounting at head of openings.
  3. Housing:
    - a. Welded metal, with factory-drilled mounting holes at each end for overhead mount.
    - b. Welded stainless steel, with factory-drilled mounting holes at each end for overhead mount.
    - c. Removable inlet screen.
    - d. No air directional vanes allowed. Nozzle pivoting +/- 20 degrees front to back; internal damper to reduce air flow up to 50 percent; field adjustable
    - e. Color: Gray baked rust preventative, electrostatic polyurethane powder coating.
  4. Blower Wheels: Dynamically balanced, producing minimum velocity 1600 feet per minute at 3 feet above floor with maximum opening height of 14 feet.
    - a. Average Velocity at Nozzle: 3400 feet per minute.
    - b. Average Velocity at Nozzle: 4000 feet per minute.
    - c. Average Velocity at Nozzle: 4700 feet per minute.
  5. Motor: Single \_\_\_\_ horsepower, maximum \_\_\_\_\_ revolutions per minute, \_\_\_\_\_-speed, with \_\_\_\_\_-speed on/off control switch.
  6. Door-Activated Microswitch: Supply microswitch for automatic on/off control; turns air curtain on when door is opened and off when door is closed; field installed.
    - a. Type: Plunger.
    - b. Type: Roller.
  7. Operating Noise Level: \_\_\_\_ decibels on A scale, measured from interior, 10 feet from unit.
  8. Utility Requirements: \_\_\_\_ Volts AC, \_\_\_\_\_-phase, \_\_\_\_ Ampere(s).
- D. Fastening Devices: Types recommended in manufacturer's printed installation instructions for indicated substrates.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: Required utilities are in correct location and are of correct capacities for specified products.

### 3.2 INSTALLATION

- A. Install air curtain components in accordance with shop drawings and manufacturer's printed installation instructions.
- B. Connection to utilities is specified in Sections of Divisions 15 and 16.
- C. Install air curtains in accordance with manufacturer's printed installation instructions.
- D. Connection to utilities is specified in Sections of Division 16.

END OF SECTION