SECTION 23 34 33

AIR CURTAINS

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\*\* NOTE TO SPECIFIER \*\* Powered Aire, Inc.; Air curtains.  
This section is based on the products of Powered Aire, Inc., which is located at:  
109 Mortensen Rd.  
Greenville, PA 16125  
Toll Free Tel: 888-321-2473  
Tel: 724-588-3305   
Fax: 724-588-3371  
Email: [request info (sales@poweredaire.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Powered+Aire,+Inc.&coid=47623&rep=&fax=724-588-3371&message=RE:%20Spec%20Question%20(15831pai):%20%20&mf=)  
Web: [www.poweredaire.com](http://www.poweredaire.com)   
 [ [Click Here](http://www.arcat.com/arcatcos/cos47/arc47623.html) ] for additional information.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Air curtains of the following types:
       1. Customer entrance door air curtains. (CED) (CHS) (CLD) (CHD) (MP)
       2. Vestibule exception air curtains. (ETA) (CHA)
       3. Climate control air curtains. (ETD) (THS) (TSD-IG) (TDS-DG)
       4. Bug control air curtains. (BCE) (BCT) (RBT) (PTW)
       5. Industrial air curtains. (TFD) (TSD) (EHD) (BPA) (XPA)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 06 10 00 - Rough Carpentry.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Product Data shall have the specific Contract Document air curtain mark/tag on each submittal with all information associated with each unit clearly identified.
        2. Product features and accessories.
     3. Shop Drawings:
        1. Include air curtain assembly, parts and mechanical drawings.
        2. Include rated capacities showing compliance with Contract Document requirements scheduled on the Drawings. Capacities including but not limited to: Airflow (CFM), discharge velocity (FPM), noise rating (dBA), motor quantity and horsepower, electrical ratings (FLA, volts/phase/hertz), outlet velocity uniformity (%), unit assembly weight (lbs).
        3. Include wiring diagrams for power, signal, and control wiring. The wiring diagrams shall indicate a clear distinction between manufacturer's factory furnished and installed wiring, and Contractor furnished and installed wiring for all power, signal and control wiring and accessories.
     4. Operation and Maintenance Data: Complete documentation of manufacturer's recommended operation and maintenance procedures for the air curtain including commissioning procedures.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 5 years experience manufacturing similar products.
     2. Installer Qualifications: Minimum 2 years experience installing similar products.
     3. Product to comply with the following standards and regulations:
        1. Comply with all applicable ordinances, codes and standards as required by the authorities having jurisdiction.
        2. Comply with NFPA 70 - National Electrical Code.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Product shall be ETL Listed (Tested in accordance with UL 1995, 4th Edition, dated October 14, 2011 including revisions through October 3, 2014 and CSA C22.2 No. 236-11, 4th Edition, dated October 14, 2011 including revisions through October 3, 2014).

\*\* NOTE TO SPECIFIER \*\* Bug Control units model BCE, BCT, RBT only. Delete if not required.

* + - 1. ETL Listed for Outdoor use when specified.

\*\* NOTE TO SPECIFIER \*\* Bug Control units model RBT only. Delete if not required.

* + - 1. ETL Sanitation listed per the NSF-37 Standard.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water/Steam coils shall be certified to ARI standard 410.

\*\* NOTE TO SPECIFIER \*\* Vestibule Exception units ETA and CHA, Industrial Air Curtain TSD only. Delete if not required.

* + - 1. All units tested in accordance with ANSI/AMCA 220. Unheated units shall bear AMCA Seal for Performance.
  1. PRE-INSTALLATION MEETINGS
     1. Convene a pre-installation meeting a minimum two weeks prior to starting work of this section.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Handling: Handle materials to avoid damage.
  3. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  4. COORDINATION
     1. Coordinate layout and installation of air curtains, mounting system and all components associated with the air curtains with other construction.
  5. WARRANTY
     1. Provide manufacturer's standard limited warranty for replacement of parts for a period of 24 months for unheated units and 18 months for heated units from the time of shipment from the manufacturer. The warranty shall cover all parts, components, accessories, and similar items provided with the air curtain whether or not the parts, components or accessories are the direct product manufactured by the air curtain manufacturer.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Powered Aire, Inc., which is located at: 109 Mortensen Rd.; Greenville, PA 16125; Toll Free Tel: 888-321-2473; Tel: 724-588-3305 ; Fax: 724-588-3371; Email: [request info (sales@poweredaire.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Powered+Aire,+Inc.&coid=47623&rep=&fax=724-588-3371&message=RE:%20Spec%20Question%20(15831pai):%20%20&mf=); Web: [www.poweredaire.com](http://www.poweredaire.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. ENTRY AIR CURTAINS

\*\* NOTE TO SPECIFIER \*\* CUSTOMER ENTRANCE DOOR (CED) -Customer Entrance Door is specially designed for high traffic retail facilities where customer satisfaction is key. Delete if not required.

* + 1. Product: Customer Entrance Door Air Curtains - Model CED - Standard Model as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel. Top and Bottom access panels shell be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Air Inlet Grille: Inlet screen shall be 20 gauge perforated type stainless steel. Inlet screen not supplied if filters are provided.
       5. Air Discharge Nozzle: Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       9. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
         3. Heating Element: Helical coil with point suspension of elements.
         4. Power Supply: Power connection and control wiring to the air curtain.
         5. Heater Casing: Galvanized steel.
         6. Protection: Automatic reset thermal overloads and contactor interlock.
         7. Heat On/Off Switch: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete control position not required.

Controls shall be unit mounted.

Controls shall be remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filters:
         1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
         2. Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* Customer entrance door with hot water or steam heat (CHS) - Delete if not required.

* + 1. Product: Customer Entrance Door Air Curtain - CHS - Hot Water/ Steam Heated as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel. Top and Bottom access panels shell be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Air Inlet Grille: Inlet screen shall be 20 gauge perforated type stainless steel. Inlet screen not supplied if filters are provided.
       5. Air Discharge Nozzle: Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       9. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by Contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F.
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filters:
         1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
         2. Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* THE CHAMELEON (CLD) -The Chameleon is specifically designed to be dropped into the ceiling above customer entry ways where a standard air curtain cannot be exposed mounted or isn't an option. The Chameleon Light Duty (CLD) is for customer entry ways up to 11 feet (3353 mm) high. Delete if not required.

* + 1. Product: The Chameleon Air Curtain - CLD - In-Ceiling Mount Light Duty as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, slotted grill, discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Bottom intake slotted grill shall be painted steel. Other casing shall be galvanized steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top per manufacturer's instructions.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
         3. Heating Element: Helical coil with point suspension of elements.
         4. Power Supply:

\*\* NOTE TO SPECIFIER \*\* Delete connection not required.

Single point power connection and control wiring to the air curtain.

Multi-point power connection and control wiring to the air curtain.

* + - * 1. Heater Casing: Galvanized steel.
        2. Protection: Automatic reset thermal overloads and contactor interlock.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond.
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.
      1. Filter Type: 1/2 inch (13 mm) thick cleanable
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Electrically heated: Controls electric heaters. Hot Water and Steam: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater..

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
      1. Heat On/Off Switch: Electrically heated only: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* THE CHAMELEON (CHD) -The Chameleon is specifically designed to be dropped into the ceiling above customer entry ways where a standard air curtain cannot be exposed mounted or isn't an option. Delete if not required.

* + 1. Product: The Chameleon Air Curtain - CHD - In-Ceiling Mount Heavy Duty as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, slotted grill, discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Bottom intake slotted grill shall be painted steel. Other casing shall be galvanized steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top per manufacturer's instructions.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
         3. Heating Element: Helical coil with point suspension of elements.
         4. Power Supply:

\*\* NOTE TO SPECIFIER \*\* Delete connection not required.

Single point power connection and control wiring to the air curtain.

Multi-point power connection and control wiring to the air curtain.

* + - * 1. Heater Casing: Galvanized steel.
        2. Protection: Automatic reset thermal overloads and contactor interlock.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond.
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) . O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.
      1. Filter Type: 1/2 inch (13 mm) thick cleanable.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Electrically heated: Controls electric heaters. Hot Water and Steam: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
      1. Heat On/Off Switch: Electrically heated only: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Mini-Power (MP) -Compact low profile design ideal for drive through windows and entrances where space is limited. Available in unheated and electrically heated versions. mini-power units are manufactured in single increments that can be provided up to ten feet (3048 mm) long. Units are stainless steel with a perforated stainless intake screen. These low profile air curtains have a variable speed controller and are available with a 120-volt cord to plug into a wall receptacle when unheated. Delete if not required.

* + 1. Product: Mini-Power Air Curtain - MP - Low Profile as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, tangential fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions. Inlet screen shall be perforated stainless steel.
       4. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Aluminum balanced forward curved tangential type with flexible hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating Element: Helical coil with point suspension of elements.
         3. Heater Casing: Galvanized steel.
         4. Protection: Automatic reset thermal overloads and contactor interlock.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
      2. Access: Accessible through air intake grille. Not available with electrically heated units.
      3. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      4. Disconnect: Unit Mounted not available with electrically heated units.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Variable Speed Selector Switch: Manually enables and disables air curtain allowing air curtain to operate at variable speeds. Available with 120,208,240/1.3/60.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed. Available with 480,575/3/60.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Heat On/Off Switch: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
  1. VESTIBULE EXCEPTION AIR CURTAINS

\*\* NOTE TO SPECIFIER \*\* VESTIBULE EXCEPTION (ETA) - The ETA unheated air curtain has been tested in accordance with ANSI/AMCA 220 and meets the criteria for use as an exception to the vestibule requirement in Climate Zones 3 and above as outlined in the 2015 International Energy Conservation Code (IECC). Delete if not required.

* + 1. Product: Vestibule Exception Air Curtain - ETA - Exposed Model as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions. Inlet screen shall be perforated stainless steel.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
         3. Heating Element: Helical coil with point suspension of elements.
         4. Power Supply:

\*\* NOTE TO SPECIFIER \*\* Delete connection not required.

Single point power connection and control wiring to the air curtain.

Multi-point power connection and control wiring to the air curtain.

* + - * 1. Heater Casing: Galvanized steel.
        2. Protection: Automatic reset thermal overloads and contactor interlock.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.
      1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
      2. Filter Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* The air curtain shall be interlocked with the door, this could be by a door switch, through a dry contact in the door controller or by other means.

* + - 1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Type: Roller/plunger.
        2. Type: Magnetic.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain to operate until specified time (adjustable 1 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
      1. Heat On/Off Switch: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* VESTIBULE EXCEPTION (CHA) - The CHA unheated air curtain has been tested in accordance with ANSI/AMCA 220 and meets the criteria for use as an exception to the vestibule requirement in Climate Zones 3 and above as outlined in the 2015 International Energy Conservation Code (IECC). Delete if not required.

* + 1. Product: Vestibule Exception Air Curtain - CHA - In-Ceiling Mount as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, slotted grill, discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Bottom intake slotted grill shall be painted steel. Other casing shall be galvanized steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top per manufacturer's instructions.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Electric Heat:
         1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
         2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
         3. Heating Element: Helical coil with point suspension of elements.
         4. Power Supply:

\*\* NOTE TO SPECIFIER \*\* Delete connection not required.

Single point power connection and control wiring to the air curtain.

Multi-point power connection and control wiring to the air curtain.

* + - * 1. Heater Casing: Galvanized steel.
        2. Protection: Automatic reset thermal overloads and contactor interlock.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filter Type: 1/2 inch (13 mm) thick cleanable.

\*\* NOTE TO SPECIFIER \*\* The air curtain shall be interlocked with the door, this could be by a door switch, through a dry contact in the door controller or by other means.

* + - 1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Type: Roller/plunger.
        2. Type: Magnetic.
      1. Disconnect:
         1. Panel mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain to operate until specified time (adjustable 1 to 100 seconds) after the door closes.
      2. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
      1. Heat On/Off Switch: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
  1. CLIMATE CONTROL AIR CURTAINS

\*\* NOTE TO SPECIFIER \*\* CLIMATE CONTROL (ETD) -Climate Control is used in stopping cold or warm air from entering a climate controlled environment. Available in unheated and electrically heated versions (see Climate Control with Hot Water or Steam Heat and Climate Control with Indirect and Direct Gas Heat for additional heating options). Delete if not required.

* + 1. Product: Climate Control Air Curtain - ETD - 8 to 12 feet (2438 to 3658 mm). Door Height as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       2. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions. Inlet screen shall be perforated stainless steel.
       3. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       4. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       5. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       6. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       7. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.
       8. Electric Heat:
          1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
          2. Heating elements shall be mounted inside the air curtain plenum on the discharge side of the blowers.
          3. Heating Element: Helical coil with point suspension of elements.

\*\* NOTE TO SPECIFIER \*\* Delete power supply not required.

* + - * 1. Power Supply: Multi-point power connection and control wiring to the air curtain.
        2. Power Supply: Single point power connection and control wiring to the air curtain.
        3. Heater Casing: Galvanized steel.
        4. Protection: Automatic reset thermal overloads and contactor interlock.
      1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
      2. Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Accessories. Optional Features-If desired. Delete accessories not required.

* + - 1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain to operate until specified time (adjustable 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
      1. Heat On/Off Switch: Controls electric heaters.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* CLIMATE CONTROL WITH HOT WATER OR STEAM HEAT (THS) Delete if not required.

* + 1. Product: Climate Control Air Curtain with Hot Water or Steam Heat - THS as manufactured by Powered Aire, Inc.
       1. Each unit consists of a factory assembled casing, centrifugal fans, stainless steel inlet screen (if filters are not provided), discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and Bottom access panels shell be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 14-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions. Inlet screen shall be 20 gauge perforated type stainless steel. Inlet screen not supplied if filters are provided.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm). O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filter Type: One inch (25 mm) thick lifetime cleanable.
      2. Filter Access: Mounted in frames, directly accessible from the front. Intake screens are not supplied with the use of filters.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. High/Off/Low Selector Switch: Manually enables and disables air curtain allowing air curtain to operate on High or Low Speed.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Electrically heated: Controls electric heaters. Hot Water and Steam: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater..

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.

\*\* NOTE TO SPECIFIER \*\* CLIMATE CONTROL WITH INDIRECT GAS HEAT (TIG) -Climate Control with Indirect Gas Heat is used in stopping cold drafts from entering while providing warm air produced by indirect gas heaters. Delete if not required.

* + 1. Product: Climate Control Air Curtain with Indirect Gas Heat - TSD-IG as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, discharge nozzle, motor(s), and access panels for motor and fan assembly. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote (for Indirect Gas) and unit (for direct gas) mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and Bottom access panels shall be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 14-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the per manufacturer's instructions.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.
       9. Indirect Gas Heater and Duct Transition
          1. American Gas Association (AGA) or Canadian Gas Association (CGA) labeled.
          2. Gas Heater Equipped with: Power exhaust, Direct spark ignition, Electronic flame supervision, 24 Volt Control transformer, Self-diagnostic control board, and Gas pressure switches.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - * 1. Tubular Heat Exchangers: Aluminized Steel.
        2. Tubular Heat Exchangers: Stainless Steel.
        3. Heater to be independently supported 2 inches (51 mm) from each opening of factory-installed duct transition.
        4. Duct Transition constructed of 18 gauge stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.
         1. unit mounted for TDG, remote mounted TIG.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch (Available with all indirect gas fired. Only available with direct gas fired if intake is ducted to outside): Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Turns heaters on and off according to temperature.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* CLIMATE CONTROL WITH DIRECT GAS HEAT (TDG) -Climate Control with Direct Gas Heat is used in stopping cold drafts from entering while providing warm air produced by direct gas heaters. Delete if not required.

* + 1. Product: Climate Control Air Curtain with Direct Gas Heat - TDS-DG as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote (for Indirect Gas) and unit (for direct gas) mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and Bottom access panels shall be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 14-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the per manufacturer's instructions.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Open Drip Proof (ODP), multi-speed, resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.
       9. Direct Gas Fired Heater

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.
        3. Direct Gas Heater Equipped with: Minimum Turndown Ratio of 30:1 Stainless Steel Baffles, Non-Clogging Orifices, Ignition System, Flame Safeguard, Gas Manifold, Valves, and Temperature Controls.
        4. Gas Train: As Required by IRI.
        5. Spark Ignited Intermittent Pilot.

\*\* NOTE TO SPECIFIER \*\* Accessories. Delete accessories not required.

* + - 1. Control Panel: To house the controls. Unit mounted for TDG, remote mounted TIG.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: (Available with all indirect gas fired. Only available with direct gas fired if intake is ducted to outside) Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Turns heaters on and off according to temperature.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.
  1. BUG CONTROL AIR CURTAINS

\*\* NOTE TO SPECIFIER \*\* BUG CONTROL (BCE Light Duty Model) -Bug Control is designed to stop insects, dust, and other debris from entering through doors. The BCE is available in unheated versions only. Delete if not required.

* + 1. Product: Bug Control Air Curtain - BCE - Light Duty Model as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be perforated stainless steel.
       5. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       9. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete filter if not required.

* + - 1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
      2. Filter Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Optional Features-If desired. Delete features not required.

* + - 1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain unit to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. On/Off Selector Switch: Manually activates and deactivates air curtain.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* BUG CONTROL (BCT Heavy Duty Model) -Bug Control is designed to stop insects, dust, and other debris from entering through doors. Delete if not required.

* + 1. Product: Bug Control Air Curtain - BCT - Heavy Duty Model as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be perforated stainless steel.
       5. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       9. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
      2. Filter Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain unit to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. On/Off Selector Switch: Manually activates and deactivates air curtain.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* RESTAURANT BUG TESTED ETL SANITATION LISTED FOR STANDARD NSF 37 (RBT) Restaurant Bug Tested is designed to satisfy local health codes. The Restaurant Bug Tested models are ETL Sanitation Listed for Standard NSF 37. Delete if not required.

* + 1. Product: Bug Control Air Curtain - RBT - Restaurant Bug Tested as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, centrifugal fans, filter, raised stainless steel inlet screen, discharge nozzle, and motor(s). The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area.
       2. Housing Materials: Minimum 18 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions. Inlet screen shall be perforated stainless steel.
       4. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vane. The vane shall facilitate a deflection of the air stream by +/- 20 degrees.
       5. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Heavy Duty (totally enclosed), resiliently mounted, continuous duty, air over with integral thermal-overload protection.
       8. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.
       9. Filter Type: One-half inch (13 mm) thick lifetime cleanable.
       10. Filter Access: Accessible through air intake grille.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Mounting Brackets: Steel construction of shape and size as coordinated with the mounting location.
      2. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Type: Roller/plunger.
        2. Type: Magnetic.
      1. Adjustable Time Delay: Integral part of the unit, only used with an automatic door switch. Air curtain unit to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      2. On/Off Selector Switch: Manually activates and deactivates air curtain.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* PTW Air Curtain designed for pass-through windows. Delete if not required

* + 1. Product: Bug Control Air Curtain - PTW as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled stainless steel casing, tangential fans, raised stainless steel inlet screen, discharge nozzle, and motor. The air curtain provides a specific CFM.
       2. Housing Materials: Minimum 20 gauge 304 Stainless Steel.
       3. Unit Support: Swivel mounting brackets allow for rear and top mounting and also allow for adjustment of the discharge angle.
       4. Inlet screen shall be stainless steel slotted grill.
       5. Fan Wheels: Aluminum tangential wheels.
       6. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       7. Motor Type: Continuous duty, air over with integral thermal-overload protection.
       8. Electric Heat:
          1. Description: Factory mounted electric heating elements. The heater shall consist of factory wired heating coil.
          2. Heating Element: Helical coil with point suspension of elements.
          3. Heater Casing: Galvanized steel.
          4. Protection: Automatic reset thermal overloads.

\*\* NOTE TO SPECIFIER \*\* ACCESSORIES. Optional Features. Delete accessories not required.

* + - 1. Mounting Brackets: Swivel brackets will allow top or rear mounting and also allow for the adjustment of the discharge angle.
      2. Variable Speed Selector Switch: Unit mounted. Manually enables and disables air curtain allowing air curtain to operate at variable speeds.
      3. 120 Volt Power Cord.
      4. Fan/Off/Heat Switch: Unit Mounted. Electrically heated units only. Controls electric heaters.
      5. Automatic Magnetic Window Switch Kit: Remotely installed in the window area to activate the unit each time the window opens and deactivate the unit each time the window closes. This is not part of the air curtain. It is a supplemental kit to be installed in the field.
  1. INDUSTRIAL AIR CURTAINS

\*\* NOTE TO SPECIFIER \*\* Rated up to 14 feet (4267 mm). High Efficiency Plenum. 1.5 HP Motor(s). Delivered fully assembled. ETL Listed. Delete if not required.

* + 1. Product: Industrial Air Curtains - TFD as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, stainless steel inlet screen (if filters are not provided), discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and Bottom access panels shell be a minimum 18 gauge stainless steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 14-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be 20 gauge perforated type stainless steel. Not supplied if unit has filters.
       5. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vanes. The vanes shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels: Galvanized forward curved centrifugal type, double inlet design, with zinc plated hubs.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Open Drip Proof (ODP), resiliently mounted, continuous duty, air over.
       9. Motor Bearings: Heavy duty type permanently lubricated, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.
        4. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.
        4. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Indirect Gas Heater And Duct Transition:
         1. American Gas Association (AGA) or Canadian Gas Association (CGA) labeled.
         2. Gas Heater Equipped with: Power Exhaust, Direct Spark Ignition, Electronic Flame Supervision, 24 Volt Control Transformer, Self-Diagnostic Control Board, and Gas Pressure Switches.

\*\* NOTE TO SPECIFIER \*\* Delete metal alloy not required.

* + - * 1. Tubular Heat Exchangers: Aluminized Steel.
        2. Tubular Heat Exchangers: Stainless Steel.
        3. Heater to be independently supported 2 inches (51 mm) from each opening of factory-installed duct transition.
        4. Duct Transition constructed of 18 gauge stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.

\*\* NOTE TO SPECIFIER \*\* Delete filter if not required.

* + - 1. Filter Type: One inch (25 mm) thick lifetime cleanable.
      2. Filter Access: Mounted in frames, directly accessible from the front. Intake screens are not supplied with the use of filters.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Thermostat: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* INDUSTRIAL (TSD) -Used over dock doors or large openings in an industrial environment. Industrial units are manufactured in single increments that can be provided up to thirty feet (9144 mm) long. Delete if not required.

* + 1. Product: Industrial Air Curtains - TSD as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, protective inlet screen (not supplied with filters), discharge nozzle, motor(s), and access panels for motor and fan assembly. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and bottom access panels shall be a minimum 16 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 11-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be 20 gauge perforated type stainless steel. Not supplied if unit has filters.
       5. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vanes. The vanes shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels and Housings: Dynamically balanced curved double inlet double width. galvanized blower wheels with brazed hubs and matched blower housings.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Total Enclosed Air Over (TEAO) continuous duty.
       9. Motor Bearings: Heavy duty type, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Indirect Gas Heater And Duct Transition:
         1. American Gas Association (AGA) or Canadian Gas Association (CGA) labeled.
         2. Gas Heater Equipped with: Power Exhaust, Direct Spark Ignition, Electronic Flame Supervision, 24 Volt Control Transformer, Self-Diagnostic Control Board, and Gas Pressure Switches.

\*\* NOTE TO SPECIFIER \*\* Delete metal alloy not required.

* + - * 1. Tubular Heat Exchangers: Aluminized Steel.
        2. Tubular Heat Exchangers: Stainless Steel.
        3. Heater to be independently supported 2 inches (51 mm) from each opening of factory-installed duct transition.
        4. Duct Transition constructed of 18 gauge stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Direct Gas Fired Heater:

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.
        3. Direct Gas Heater Equipped with: Minimum Turndown Ratio of 30:1 Stainless Steel Baffles, Non-Clogging Orifices, Ignition System, Flame Safeguard, Gas Manifold, Valves, and Temperature Controls.
        4. Gas Train: As Required by IRI.
        5. Spark Ignited Intermittent Pilot.

\*\* NOTE TO SPECIFIER \*\* Delete filters if not required.

* + - 1. Filter Type: Two inches thick lifetime cleanable.
      2. Filter Access: Mounted in frames, directly accessible from the front. Intake screens are not supplied with the use of filters.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* EXTRA HIGH DOOR (EHD) -For use in industrial settings where maximum air capacity is desired. Available in unheated, hot water heated, steam heated, indirect gas fired (closed combustion heaters are available), and direct gas fired versions. Delete if not required.

* + 1. Product: Industrial Air Curtains - EHD as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, protective inlet screen (not required if filters are used), discharge nozzle, motor(s), and access panels for motor and fan assembly. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and bottom access panels shall be a minimum 16 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 11-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be 20 gauge perforated type stainless steel.
       5. Not supplied if unit has filters.
       6. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vanes. The vanes shall facilitate a deflection of the air stream by +/- 20 degrees.
       7. Fan Wheels and Housings: Dynamically balanced curved double inlet double width galvanized blower wheels with brazed hubs and matched blower housings.
       8. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       9. Motor Type: Total Enclosed Air Over (TEAO) continuous duty.
       10. Motor Bearings: Heavy duty type, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Hot Water Heat:
         1. Description: Factory mounted hot water coil. The coil shall be mounted to the intake of air curtain.
         2. Hot Water Supply and Return Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Steam Heat:
         1. Description: Factory mounted steam coil. The coil shall be mounted to the intake of air curtain.
         2. Steam and Condensate Piping Connections: Threaded
         3. Tubes: Copper, complying with ASTM B 75.
         4. Tube Diameter: 0.625 inch (16 mm) O.D.
         5. Fin and Tube Joint: Mechanical bond
         6. Headers: Seamless copper tube with brazed joints.
         7. Ratings: According to ARI standard 410.
         8. Working-Pressure Ratings: 200 psig, 325 degree F (163 degree C).
         9. Source Quality Control: Coils shall be tested at 550 psig using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

\*\* NOTE TO SPECIFIER \*\* Delete supply not required.

* + - * 1. Coil Connections: Left Hand Supply.
        2. Coil Connections: Right Hand Supply.

\*\* NOTE TO SPECIFIER \*\* Delete return not required.

* + - * 1. Coil Connections: Left Hand Return.
        2. Coil Connections: Right Hand Return.
        3. Valves and Valve Controls by contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Indirect Gas Heater And Duct Transition:
         1. American Gas Association (AGA) or Canadian Gas Association (CGA) labeled.
         2. Gas Heater Equipped with: Power Exhaust, Direct Spark Ignition, Electronic Flame Supervision, 24 Volt Control Transformer, Self-Diagnostic Control Board, and Gas Pressure Switches.

\*\* NOTE TO SPECIFIER \*\* Delete metal alloy not required.

* + - * 1. Tubular Heat Exchangers: Aluminized Steel.
        2. Tubular Heat Exchangers: Stainless Steel.
        3. Heater to be independently supported 2 inches (51 mm) from each opening of factory-installed duct transition.
        4. Duct Transition constructed of 18 gauge stainless steel.

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Direct Gas Fired Heater:
         1. Direct Gas Heater Equipped with: Minimum Turndown Ratio of 30:1 Stainless Steel Baffles, Non-Clogging Orifices, Ignition System, Flame Safeguard, Gas Manifold, Valves, and Temperature Controls.
         2. Gas Train: As Required by IRI.
         3. Spark Ignited Intermittent Pilot.

\*\* NOTE TO SPECIFIER \*\* Delete fuel type not required.

* + - * 1. Fuel Type: Natural Gas.
        2. Fuel Type: Propane.

\*\* NOTE TO SPECIFIER \*\* Filters. Not available for DG and IG models. Delete if not required.

* + - 1. Filter Type: Two inches (51 mm) thick lifetime cleanable.
      2. Filter Access: Mounted in frames, directly accessible from the front. Intake screens are not supplied with the use of filters.

\*\* NOTE TO SPECIFIER \*\* Accessories Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.
      1. Thermostat: Turns air curtain fans on and off according to temperature, to operate the unit as a space heater.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete voltage not required.

* + - * 1. Line voltage.
        2. Low voltage.

\*\* NOTE TO SPECIFIER \*\* BIG POWERED AIRE (BPA)- The BPA is recommended for doors up to 30 feet (9144 mm) high. Delete if not required.

* + 1. Product: Industrial Air Curtains - BPA as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, protective inlet screen (not required if filters are used), discharge nozzle, motor(s), and access panels for motor and fan assembly. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and bottom access panels shall be a minimum 16 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 11-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be 20 gauge perforated type stainless steel.
       5. Not supplied if unit has filters.
       6. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vanes. The vanes shall facilitate a deflection of the air stream by +/- 20 degrees.
       7. Fan Wheels and Housings: Dynamically balanced curved double inlet double width galvanized blower wheels with brazed hubs and matched blower housings.
       8. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       9. Motor Type: Total Enclosed Air Over (TEAO) continuous duty.
       10. Motor Bearings: Heavy duty type, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete filter if not required.

* + - 1. Filter Type: Two inches (51 mm) thick lifetime cleanable.
      2. Filter Access: Mounted in frames, directly accessible from the front. Intake screens are not supplied with the use of filters.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* XPA - Powered Aire's XPA model air curtain is designed to protect door openings up to 50 feet (15240 mm). high. Delete if not required.

* + 1. Product: Industrial Air Curtains - XPA as manufactured by Powered Aire, Inc.
       1. Assembly: Each unit consists of a factory assembled casing, centrifugal fans, protective inlet screen, discharge nozzle, motor(s), and access panels for motor and fan assembly. Additional accessories as specified. The air curtain provides a specific CFM and a uniform outlet velocity across the entire length of the discharge nozzle area. A remote or unit mounted NEMA 12 control panel will be provided.
       2. Housing Materials: Top and bottom access panels shall be a minimum 16 gauge 304 Stainless Steel.
       3. Unit Support: Integral to the unit frame or casing. All weight bearing structural support shall be formed 11-gauge stainless steel and galvanized steel. Units shall be furnished in single increments of sufficient structural strength to be supported from the top or back per manufacturer's instructions.
       4. Inlet screen shall be 20 gauge perforated type stainless steel.
       5. Discharge nozzle shall be high efficiency discharge plenum. Air curtain creates a positive air seal with directional air foil vanes. The vanes shall facilitate a deflection of the air stream by +/- 20 degrees.
       6. Fan Wheels and Housings: Dynamically balanced curved double inlet double width galvanized blower wheels with brazed hubs and matched blower housings.
       7. Fan Drives: Direct Drive. Belt Drive Not Acceptable.
       8. Motor Type: Total Enclosed Air Over (TEAO) continuous duty.
       9. Motor Bearings: Heavy duty type, shielded ball bearings of equal size.

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - 1. Control Panel: To house the controls.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.
      1. Disconnect:

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Unit mounted.
        2. Remote mounted.

\*\* NOTE TO SPECIFIER \*\* Delete type not required.

* + - * 1. Fused.
        2. Non-fused.
      1. Automatic Door Switch: Remotely installed in the door area to activate the unit each time the door opens and deactivate the unit each time the door closes.
      2. Adjustable Time Delay: Integral part of the panel, only used with an automatic door switch. Air curtain to operate until specified time (adjustable from 1.0 to 100 seconds) after the door closes.
      3. Hand/Off/Auto Switch: Acts as an override to the automatic door switch. In Hand position the air curtain is on, in Off position the air curtain is off, and in Auto position the air curtain runs via the automatic door switch.

\*\* NOTE TO SPECIFIER \*\* Delete location not required.

* + - * 1. Panel mounted.
        2. Remote mounted.

1. EXECUTION
   1. EXAMINATION
      1. Examine the installation location where each air curtain will be installed to confirm that the installation location is in accordance with the contract documents and the manufacturer's installation instructions. Notify Architect in writing if existing conditions are not suitable for installation of the air curtains.
   2. INSTALLATION
      1. Install air curtains in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   3. SYSTEM STARTUP
      1. Startup each air curtain in accordance with the manufacturer's operations and maintenance manual and installation instructions.
      2. Perform the following field tests and inspections and prepare test reports:
         1. After installing air curtains completely, perform visual and mechanical check of individual components.
         2. After electrical circuitry has been energized, start unit to confirm motor rotation and unit operation.
         3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
      3. Repair or replace malfunctioning units and retest as specified above.
      4. Adjust air-directional vanes.
   4. CLEANING
      1. Clean the inside and outside of each air curtain of any dirt, debris, grease, grime or other material as necessary to ensure proper operation. Remove any loose debris that may be of harm to the air curtain operation. Remove, clean and reinstall the cleanable air filters, if provided.
   5. DEMONSTRATION
      1. Contractor to instruct the Owner's maintenance personnel on how to adjust, operate, and maintain air curtains.
   6. PROTECTION
      1. Protect installed products until completion of project. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION