EQUIPMENT DATA SPECIFICATION
AIR CONDITIONER

Dust & Dirt Environment Package
CS020
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**SPECIFICATION**

1.0 SCOPE

This specification covers the minimum general and specific requirements for the Air Conditioner unit for electrical enclosures used in environments with dust from flour, coal, paper, wood, etc., that will clog the air conditioner filters and coils. The airborne oil in machine shops also will be captured by the air conditioner coils and restrict air flow.

2.0 REQUIREMENTS

- **Type of Heat Exchange**: Compressor based air conditioner
- **Ambient Operating Temperature**: 60°F – 125°F
- **Approvals and Stamps**: UL, cUL, CE
- **NEMA Type**: 12 or 4
- **Voltage**: 110-120 VAC, 60 Hz, 10.63A Inrush, 3.36A Running  
  220-240 VAC, 60 Hz, 8.84A Inrush, 2.00A Running
- **BTU Rating**: 2000 BTUH, Nominal
- **Material Type**: Powder coated cold rolled steel
- **Construction**: 
  - Chassis: Rigid, insulated, closed loop  
  - Shroud: Seam welded, sloped top, insulated
- **Refrigeration Circuit Protection**: Electrostatic epoxy coated coils
- **Condensate Removal**: Active evaporation utilizing superheated refrigerant coil
- **Refrigerant**: R422d
- **Refrigerant Metering**: Thermal expansion valve
- **Refrigerant Service Ports**: 
  - High pressure  
  - Low pressure
• Digital Controller
  o Controls
    o Cooling set point
    o Cooling set point differential
    o Compressor protection:
      o Anti-short cycle delay
      o Condenser high temperature limit
      o Evaporator low pressure limit
    o Probes displayed:
      o Evaporator temperature
      o Condenser temperature
    o Auxiliary set points:
      o Heater
      o Dry contact
    o Auxiliary set point differential
  o Alarms
    o Enclosure probe failure (P1)
    o Condenser probe failure (P2)
    o Maximum temperature for 3 minutes (HA)
    o Minimum temperature for 3 minutes (LA)
    o Condenser high temperature for 3 minutes (HA2)
    o Condenser low temperature for 3 minutes (LA2)
    o Evaporator low pressure for 2 minutes (CA)

• Compressor Head Pressure Control
  Pressure controlled condenser fan switch

• Compressor Protection
  Thermal/current overload switch (self-resetting)

• Condenser Filter
  High Capacity: 2” Pleated, 304 Stainless steel mesh, 250 micron, 94% efficiency

• Electrical Connection
  Terminal block
  Power On/Off switch

• Dimensions
  120 V / 230 V: 20"H x 10"W x 10"D

• Unit Weight
  120 V / 230 V: 45 lbs.

• Shipping
  Corrugated packaging and pallet
3.0 OPTIONS

- Louvered Security Filter Cover: Powder coated mild steel
- NEMA Type: 4X
- Integrated Heater: 500W
- Dry Contact: Normally open
  (Operation when enclosure temperature exceeds maximum limit)
  Normally closed
  Normally open & normally closed
- Remote Controller: Digital controller supplied with 10 ft. cable & bracket for installation inside equipment cabinet
- Custom Programming: Factory programming of digital controller for Celsius temperature or deviation from default settings
- External Heat Output: 100 W – 950W
- High Ambient: For operation at ambient temperatures above 125°F
- Open Door Kill Switch: Disables power to air conditioner when equipment enclosure door is open
- Adjustable Temperature Probe: Monitor & maintain temperature at any point inside equipment enclosure
- Controller Communication Output: Modbus RTU
  Ethernet/IP

4.0 ACCESSORIES

- Replacement Filters: High Capacity
- Alarm & Controlling Web Server: XWEB300D-8B000 – for up to 6 air conditioners
  XWEB300D-8F000 – for up to 18 air conditioners
5.0 CODES AND STANDARDS

- ANSI/UL 484 Room Air Conditioners (Special Purpose)
- ANSI/NFPA 70 National Electrical Code
- CSA-C22.2 No. 236-M90 Heating and Cooling Equipment
- CSA-C22.2 No. 117 Room Air Conditioners (Special Purpose)
- CAN/CSCA-C22.1 Canadian Electrical Code, Part I.
- EN Harmonized European Standards
  - EN 378-1 through -4 Refrigerating Systems and Heat Pumps
  - EN 60204-1 Electrical Equipment of Machinery
  - EN 60529, IP IP Code
  - EN 61000-3-11 Electromagnetic Compatibility
  - EN 61000-6-2 Emission
  - EN 61000-6-4 Immunity
- Hazardous Location Standards
  - ANSI/UL 1203 Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
  - UL 698 Industrial Control Equipment for Use in Hazardous (Classified) Locations
  - ANSI/UL 877 Circuit Breakers and Circuit-Breaker Enclosures for Use in Hazardous (Classified) Locations
  - UL 886 Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations
  - ANSI/UL 894 Switches for Use in Hazardous (Classified) Locations
  - ANSI/UL 1002 Electrically Operated Valves for Use in Hazardous (Classified) Locations
  - ANSI/UL 1010 Receptacle-Plug Combinations for Use in Hazardous (Classified) Locations
  - ANSI/ISA-12.12.01 Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II and III, Division 1, Hazardous (Classified) Locations
  - ANSI/ISA-12.12.01 Non-Incendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
  - UL 1604 Electrical Equipment for Use in Class I and II, Division 2, and Class III Hazardous (Classified) Locations
  - ANSI/NFPA 496 Purged and Pressurized Enclosures for Electrical Equipment
  - IEC 60529 Classification of Degrees of Protection Provided by Enclosures
  - CSA-C22.2 No. 30-1986 Explosion-Proof Enclosures for Use in Class I Hazardous Locations
  - CSA-C22.2 No. 25-1966 Enclosures for Use in Class II Groups E, F and G Hazardous Locations
  - CAN/CSA-C22.2 No. 157-1992 Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
  - CSA-C22.2 No. 213-1987 Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
  - ANSI/NFPA 496 Purged and Pressurized Enclosures for Electrical Equipment