

## EQUIPMENT DATA SPECIFICATION AIR CONDITIONER

### Dust & Dirt Environment Package NE040



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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, 23.42A Inrush, 5.53A Running  
220-240 VAC, 60 Hz, 13.65A Inrush, 3.07A Running  
440-480 VAC, 60 Hz, 5.86A Inrush, 1.51A Running
- BTU Rating 4000 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
  - Controls
    - Cooling set point
    - Cooling set point differential
    - Compressor protection:
      - Anti-short cycle delay
      - Condenser high temperature limit
      - Evaporator low pressure limit
    - Probes displayed:
      - Evaporator temperature
      - Condenser temperature
    - Auxiliary set points:
      - Heater
      - Dry contact
    - Auxiliary set point differential
  - Alarms
    - Enclosure probe failure (P1)
    - Condenser probe failure (P2)
    - Maximum temperature for 3 minutes (HA)
    - Minimum temperature for 3 minutes (LA)
    - Condenser high temperature for 3 minutes (HA2)
    - Condenser low temperature for 3 minutes (LA2)
    - 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: 32"H x 11.8"W x 9.5"D  
480 V:    38"H x 11.8"W x 9.5"D
- Unit Weight                                    120 V / 230 V: 99 lbs.  
480 V:    123 lbs.
- Shipping                                        Corrugated packaging and pallet

### 3.0 OPTIONS

- Louvered Security Filter Cover Powder coated mild steel
- NEMA Type 4X
- Integrated Heater 500W  
1000W
- Low Ambient For operation at ambient temperatures below 60°F
- Remote Controller Digital controller supplied with 10 ft. cable & bracket for installation inside equipment cabinet
- Dry Contact Normally open  
(Operation when enclosure temperature exceeds maximum limit) Normally closed  
Normally open & normally closed
- 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
- Vibration Package Protects air conditioner components from effects of moderate or severe vibration
- Hazardous Location Package Class 1, Division 2, Groups B, C, & D
- Redundant System Alternating operation of two air conditioners including backup mode in the event that one unit fails

### 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/CSA-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/UL 913 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-E61241-1-1-2002 Limitation - Specification for Apparatus Electrical Apparatus for Use in the Presence of Combustible Dust - Part 1-1: Electrical Apparatus Protected by Enclosures and Surface Temperature
  - 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