

**EQUIPMENT DATA SPECIFICATION
AIR CONDITIONER**

**Dust & Dirt Environment Package
HC20C**



TABLE OF CONTENTS

- 1.0 SCOPE**
- 2.0 REQUIREMENTS**
- 3.0 OPTIONS**
- 4.0 ACCESSORIES**
- 5.0 CODES AND STANDARDS**

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 – 131°F
- Approvals and Stamps UL, cUL, CE
- NEMA Type 12, 04
- Voltage 220-240 VAC, 60 Hz, 50A Inrush, 12.47A Running
440-480 VAC, 60 Hz, 25A Inrush, 6.30A Running
- BTU Rating 20,000 BTUH, Nominal
- Material Type NEMA 12, 04: Powder coated cold rolled steel
NEMA 4X: 304 or 316 Stainless Steel, #4 Finish
- Construction Chassis: Rigid, insulated, closed loop
Shroud: Seam welded, sloped top, insulated
- Condensate Removal Active evaporation utilizing superheated refrigerant coil
- Refrigerant R407C
- 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
 - Expanded aluminum, 250 micron, 60% efficiency
- Electrical Connection
 - Terminal block
 - Power On/Off switch
- Dimensions
 - 230 V: 48”H x 15.86”W x 15.03”D
 - 480 V: 57.67”H x 15.86”W x 15.03”D
- Unit Weight
 - 230 V: 170 lbs.
 - 480 V: 250 lbs.
- Shipping
 - Corrugated packaging and pallet

3.0 OPTIONS

- NEMA Type 4X
- High Capacity Condenser Filter 2” Pleated, 304 Stainless steel mesh, 250 micron, 94% efficiency
- Louvered Security Filter Cover Prevent tampering by unauthorized persons
- Filter Hood Additional wash down protection
- Integrated Heater 500W
1000W
1500W
- Refrigeration Circuit Protection Electrostatic epoxy coated coils
Passivated refrigeration tubing joints
- Low Ambient For operation at ambient temperatures below 60°F
- Dry Contact Normally open
(Operation when enclosure Normally closed
temperature exceeds maximum limit) 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 131°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 Standard
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