

**EQUIPMENT DATA SPECIFICATION  
AIR CONDITIONER  
NE040**

**Waste Water Treatment Package**



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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 all levels of water treatment, disposal or purification.

### 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 4X
- 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 304 or 316 Stainless Steel, #4 Finish
- 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)
  - Remote Mount
    - Digital controller supplied with 10 ft. cable & bracket for installation inside equipment cabinet
- Compressor Head Pressure Control Pressure controlled condenser fan switch
- Compressor Protection Thermal/current overload switch (self-resetting)
- Condenser Filter Standard: Expanded aluminum, 250 micron, 60% 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

- High Capacity Condenser Filter 2” Pleated, 304 Stainless steel mesh, 250 micron, 94% efficiency
- Louvered Security Filter Cover 304 or 316 Stainless Steel
- Integrated Heater 500W  
1000W
- 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
- 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 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