

SECTION 26 27 16

SPECIFICATIONS

TAG: Electrical Cabinets and Enclosures

PART 1- GENERAL

1.1 SUMMARY

- A. The control package may be ordered as a Demand Control Ventilation (DCV), Smart Control (SC), Mixed Demand Control Ventilation (M-DCV), or Residential Hood (Residential-Hood).
- B. These systems are designed to control, activate, and operate the exhaust fan(s), supply fan(s), CORE system(s), and wash system dependent on the HMI settings and temperature sensors.
- C. The system can have up to two zones that the fans are assigned to. Each fan zone has several parameters that communicate with the system on how to operate.

1.2 SUBMITTALS

- A. The manufacturer assumes no liability for the use or results of use from this document. Specifications are to be reviewed by the engineer to confirm the project's requirements and meet Federal, State, and Local codes and regulations.
- B. As the manufacturer continues product development, it reserves the right to change design and specifications without notice.
- C. The manufacturer shall supply complete computer generated submittal drawings, including hood section view(s) and hood plan view(s). These drawings must be available to the engineer, architect, and owner for their use in construction, operation, and maintenance.

1.3 QUALITY ASSURANCE

- A. Control package shall be listed by ETL and complies with UL508A Standard and CAN/CSA C22.2, No. 14-05 Standards.
- B. ECPM03 Circuit Board shall be listed by ETL and complies with UL 61010-1 Standard and CAN/CSA C22.2, No. 61010-1 Standards.

1.4 WARRANTY

- A. All units shall be provided with the following standard warranty:
 - 1. This equipment is warranted to be free from defects in materials and workmanship, under normal use and service, for a period of 2-years from date of shipment.
- B. The manufacturer shall not be liable for incidental and consequential losses and damages potentially attributable to malfunctioning equipment. Should any part of the equipment prove to be defective in material or workmanship within the 2-year warranty period, upon examination by the manufacturer, such part will be repaired or replaced by manufacturer at no charge. The buyer shall pay all labor costs incurred in connection with such repair or replacement. Equipment shall not be returned without manufacturer's prior authorization, and all returned equipment shall be shipped by the buyer, freight prepaid to a destination determined by the manufacturer.
- C. Refer to Manufacturer's Operation, Installation, and Maintenance (OIM) Manual for detailed descriptions of what is and is not covered, and contact information for warranty claims.

PART 2- PRODUCTS

2.1 GENERAL

- A. The system includes an LCD screen interface for fan(s) and hood lights control, wash control (if applicable), gas valve reset, programmable schedule, Max Air Override function, Preparation Time mode, Cool Down mode, and diagnostics including VFD status.
- B. The LCD screen shows descriptive plain text explaining the functions or values. The LCD screen interface will be installed on the face of the hood, on the face of the utility cabinet, or on the face of a wall-mounted control enclosure.

2.2 CONSTRUCTION

- A. Control enclosure will be NEMA 1-rated and listed for installation inside the hood utility cabinet. Control enclosure may be constructed of stainless steel or painted steel.

2.3 FAN CONNECTIONS

- A. Package(s) shall be single or dual voltage.
 - 1. 1st Voltage: Exhaust and Supply Fans will be assigned.
 - 2. 2nd Voltage: Exhaust and Supply Fans will be assigned.

2.4 SWITCHES

- A. Switches to be included with the package:
 - 1. # of light switches included with the control package.
 - 2. # of fan switches included with the control package.
 - 3. # of extra HMIs included with the control package.
 - 4. # of other switches included with the control package.

2.5 ZONE CONFIGURATION

- A. Up to two fan zones.
- B. Up to two light zones.
- C. HMI Humidity Monitoring (Optional Upgrade).

2.6 ZONE SCHEDULING

- A. Zone scheduling is active when "Zone Scheduling Enabled" is selected.
- B. Fans may operate with schedule when "Fans On During Schedule" is selected.

2.7 ZONE OPTIONS

- A. Fan Zone Options:
 - 1. Adjustable Modulation Activation Offset temperature setting.
 - 2. Adjustable Preparation Activation Offset temperature setting.
 - 3. External Interlock – Adjustable Off Delay Timer.
 - 4. IO 1 Max Air Enable
 - 5. Prep Disable
 - 6. Independent Light Control Enable
 - 7. Voltage Output selectable options: Exhaust CFM Ratio, Supply CFM Ratio, Transfer CFM Ratio, Exhaust, or Supply.
 - 8. Activate Zone Based On: Room Sensor, Faceplate Sensor, Room and Faceplate

Sensor, Wireless, or Wireless and Faceplate Sensor.

- B. Light Zone
 - 1. Light Dimming

2.8 ECP LOCATION

- A. Electrical Control Package (ECP) location:
 - 1. Ship Loose with Hood.
 - 2. Ship Separate
 - 3. Top Utility Cabinet
 - 4. UDS
 - 5. Utility Cabinet Left
 - 6. Utility Cabinet Right
 - 7. Wall Mount
 - 8. Wall Utility Cabinet on Left
 - 9. Wall Utility Cabinet on Right

2.9 BUILDING MANAGEMENT SYSTEM

- A. CASLink
 - 1. Cellular Data Selected
- B. CASLink Analytics
- C. External BMS: BACNet MS/TP, BACNet IP, or Lonworks

2.10 FAN PROVING

- A. Fan Proving - Exhaust and supply activate simultaneously. A maximum of 90 seconds to prove on initial start-up.
- B. Supply First Fan Proving - Exhaust activates after supply in zone have passed proving threshold.

2.11 HOOD COVERAGE

- A. ECP will cover Hood.
- B. Self-Cleaning included:
 - 1. Optional Self-Cleaning Slow Close Solenoid included.
 - 2. Optional Backflow Preventer included.
- C. Smart Control coverage for installed Fire System control board.

2.12 EQUIPMENT CONTACTORS

- A. Contactors selected:
 - 1. Contactor On/Off with Fire
 - 2. Contactor On/Off with Supply Fan

2.13 FAN AND MOTOR COVERAGE

- A. Information about the voltage exhaust fan and motor coverage include:
 - 1. Motor Sizing
 - 2. CFM
 - 3. PCU/PCU AFM Coverage

4. Max Temp: 450°F/600°F/700°F
 5. Additional Loose Duct Therm Kits
 6. 0-10 VDC Control
- B. Information about the voltage supply fan and motor coverage include:
1. Motor Sizing
 2. CFM
 3. Condensers
 4. 0-10 VDC Control
 5. VFD
 6. VFD Location

2.14 OPTIONS

- A. UDS Interlock
- B. HMI Dimming
- C. 120V Elec. Gas Valve Coverage
- D. Manual to Auto
- E. Locking Latch
- F. HD Stainless Room Sensor
- G. Gas Follow Fans
- H. Shunt Trip Follow Fans
- I. Relay On/Off With Exhaust
- J. Exhaust Off in Fire
- K. Exhaust Continue in Fire
- L. Lights Continue During Fire
- M. Supply On in Fire
- N. Auxiliary Temperature Sensors

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which the system is installed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions, drawings, written specifications, manufacturer's installation manual, and all applicable building codes.