

## SUBMITTAL



## Fresh Air Ventilation Humidity Mitigation System (FAV-H)

### DESCRIPTION

Zonex Systems Fresh Air Ventilation - Humidity Mitigation System, **Part # FAV-H** is a microprocessor based controller and fresh air damper designed to provide required ventilation air based on time, outside air temperature/humidity and air requirements for 12-hour operations, based on ASHRAE 62.2 Ventilation and International Mechanical Code 403.3.2.1, to meet Indoor Air Quality Standards.

Using sophisticated software, the controller will monitor outdoor fresh air conditions using an outdoor temperature sensor with humidistat, to provide fresh air as required when conditions meet the software parameters. When outdoor fresh air conditions exceed software parameters for temperature and humidity, controller will track HVAC system operation and provide fresh air when the system can remove humidity during its run time. When outdoor conditions do not permit system operations, software will store missed minutes of operation for use when the HVAC system is operating. Software will monitor stored minutes and provide recovery in the event that HVAC unit does not operate during any 12 hour period, insuring delivery of ASHRAE and International Mechanical Code fresh air requirement.

Additionally, the FAV-H controller will monitor outdoor air temperature and humidity to determine shoulder periods, events when outdoor air temperature is moderate and humidity is high, and activate dehumidification function from FAV-H controller to HVAC air handler / furnace. If air handler / furnace is equipped with DEHUM feature, fan speed will be reduced allowing for greater dehumidification of fresh air entering the home.

### TECHNICAL DATA

#### **Electrical:**

**Supply Voltage:** 24vac – Controller and Damper

**Power consumption:** 12va

#### **Inputs:**

**R and C** - 24vac power from HVAC unit transformer

**Y**- from Furnace/Air Handler

**J Plug** – Outdoor Air Temperature and Humidity Sensor

#### **Outputs:**

**G** – Energize Blower Fan Furnace/Air Handler

**DPR 1 and 2** – Energize fresh air damper open

**EXH** – Optional booster fan output

**DH**- Activate DEHUM operation on Furnace/Air Handler if equipped.

#### **Environmental:**

**Operating temperature:** 10 to 150° F

#### **General:**

**Frame:** 20 gauge galvanized steel

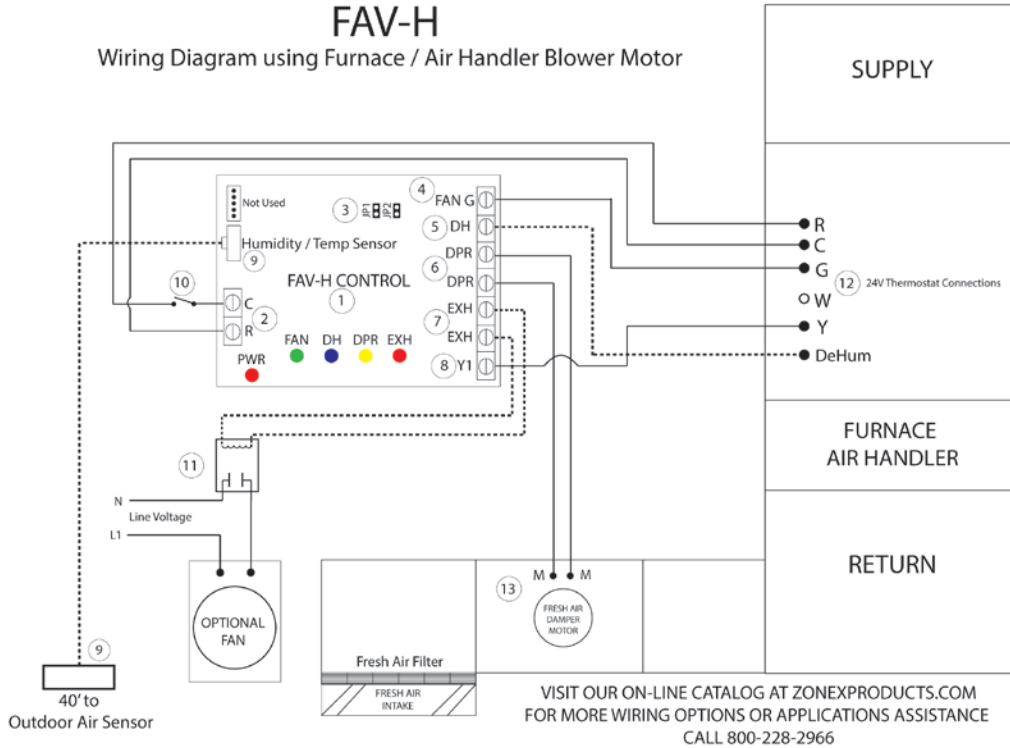
**Actuator:** Power Open, Spring Closed

**JP1 jumper:** Allows for 50% run per hour

REV 4/25/16

# FAV-H

Wiring Diagram using Furnace / Air Handler Blower Motor



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|---|---|--|
| 1. FAV-H Controller   | 5. Dehumidifier output ( For use with Furnace / Air handler equipped with Dehum function) | 9. FAS - Temperature Humidity Sensor   |
| 2. FAV-H 24v Power provided from Furnace / Air handler              | 6. Damper control output  | 10. Optional " On - Off" Switch ( Field Supplied )                           |
| 3. JP1- Used for 50% operation<br>JP2 - Exhaust Fan Jumper          | 7. EXH outputs to operate AUX Booster Fan or Exhaust Fan                                  | 11. Field Supplied SPST Relay to be used with Optional Booster / Exhaust Fan |
| 4. G output, connect to G on Furnace / Air handler control terminal | 8. Y1 input, connect to Y1 on Furnace / Air handler control terminal                      | 12. Furnace / Air handler 24V Thermostat Connections                         |
|   |   | 13. Fresh Air Damper   |

## Fresh Air Duct Sizing Chart

Required CFM	Duct Size
40	5"
50	6"
60	6"
75	6"
90	7"
100	7"
105	8"
110	8"
125	8"

Fresh Air Duct Sizing is based on .3 inch of static for a 100 ft. run of duct. An air balancing damper may be used to tune airflow to specific CFM requirement.