

Project: \_\_\_\_\_

Dealer: \_\_\_\_\_

Architect: \_\_\_\_\_

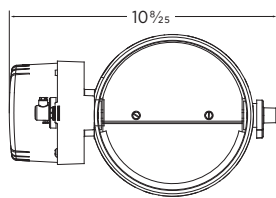
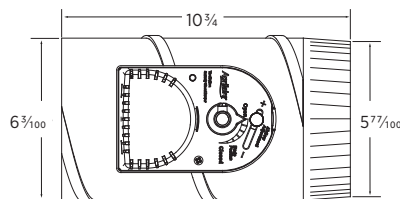
Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

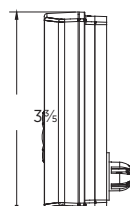
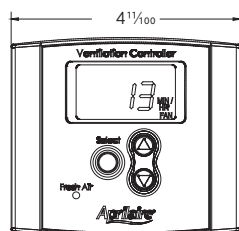
Location: \_\_\_\_\_

Suppliers: \_\_\_\_\_

Date: \_\_\_\_\_



90-2159



90-2286

#### STANDARD CONSTRUCTION DAMPER

<b>Size</b>	6" dia.
<b>Overall dimensions with actuator</b>	10 3/4" H x 10 5/8" dia.
<b>Frame</b>	24 gauge spiral, galvanized steel 0.38 aluminum hexshaft
<b>Blade</b>	22 gauge galvanized steel
<b>Bearings</b>	Nylonacetal bearings
<b>Blade seal</b>	Urethane
<b>Maximum static pressure</b>	1" w.c.
<b>Maximum system velocity</b>	1000 ft/min
<b>Actuator</b>	On-Off. Spring return 2-wire 24VAC, 50/60Hz
<b>Total power consumption</b>	10VA (6 watts)

#### CONTROLLER: Model 8120X (Provided)

<b>Overall dimensions</b>	4 11/100" W x 3 3/5" H x 1 59/100" D
<b>LCD screen</b>	Backlit display indicates minutes of ventilation per hour
<b>Input power</b>	24VAC; 2VA (from the HVAC system transformer)
<b>Duct opening dimensions (for humidity sensor)</b>	5/8" dia. in sheet metal 5 3/4" x 5 1/4" for duct board (duct board bracket included)
<b>Modes of operation (3-Button Interface)</b>	Off; 6-60 min/hr Code/Comfort Operation
<b>Temperature limits</b>	Off; Low: -10°-40°F; High: 85°-105°F
<b>Humidity limits</b>	Off; Low: 10%-30% RH; High: 45%-70% RH
<b>HVAC equipment terminals</b>	R, C, W, Y, O, GS, GH
<b>Damper (vent) and GH outputs</b>	10VA @ 30VAC max
<b>Equipment compatibility</b>	Furnace and AC or Heat Pump

#### DAMPER TRANSFORMER: 24VAC, 10VA (provided)

#### OUTDOOR TEMPERATURE SENSOR

Nominal 10K @ 77 deg. Thermistor (provided)

<b>Measurement range</b>	20°F-140°F
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## SEQUENCE OF OPERATION – “CODE” SETTING\*

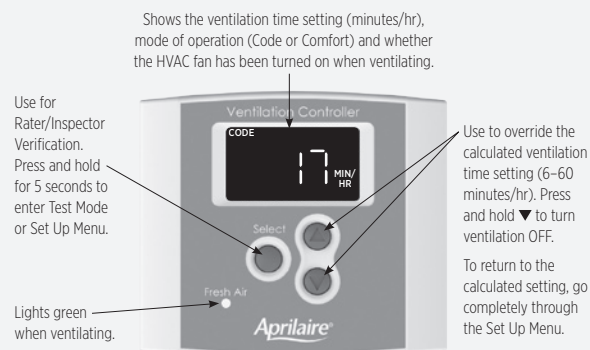
- + The control will open the vent damper with a heating, cooling or fan call for the set number of minutes during a one-hour cycle period. If the outdoor temperature is above the high temperature ventilation limit, ventilation will not occur with a cool or fan call, but if it is below the low temperature ventilation limit it will occur with a heat call.
- + If the HVAC equipment does not turn on enough to meet the ventilation time within the hour, the control will open the vent damper and turn on the HVAC blower without a call, but only if the outdoor air temperature is within the high and low ventilation temperature limits.
- + If the outdoor air temperature is outside of the limits at the end of the one-hour cycle period, then no additional ventilation will occur for another 60 minutes, and the cycle period will automatically adjust to four hours. The controller will then attempt to meet the set amount of ventilation during the four-hour cycle period.
- + If the air temperature is still out of range at the end of the four-hour cycle period, the control will automatically switch to an eight-hour cycle period, then a 12-hour cycle period and finally a 24-hour cycle period. During eight, 12 and 24 hour cycle periods, the total ventilation time increases to compensate for ventilation effectiveness as defined in ASHRAE Standard 62.2-2010.
- + When the cycle period automatically adjusts to 24-hours, the control will turn on ventilation to meet the requirements even if the temperature is outside of the set limits.

\*Pat. no. 9,874,366

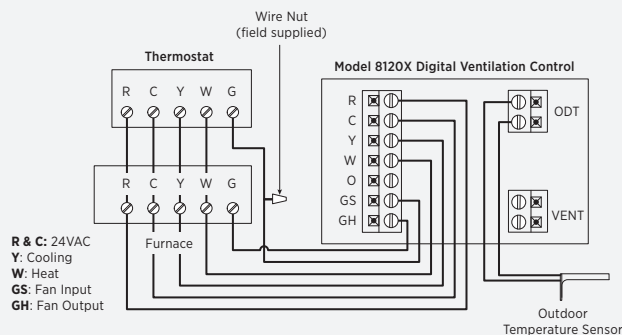
## SEQUENCE OF OPERATION – “COMFORT” SETTING

- + The control will open the vent damper with a heating, cooling or fan call if the outdoor air temperature is within the high and low ventilation temperature limits and the indoor RH is within the high and low RH limits, for the set number of minutes during a one-hour cycle period.
- + If the HVAC equipment does not turn on enough to meet the ventilation time within the hour, the control will open the vent damper and turn on the HVAC fan without a call, if the outdoor air temperature and indoor RH is within the set limits. If the outdoor temperature or indoor RH are outside of the set limits, then no ventilation will occur.

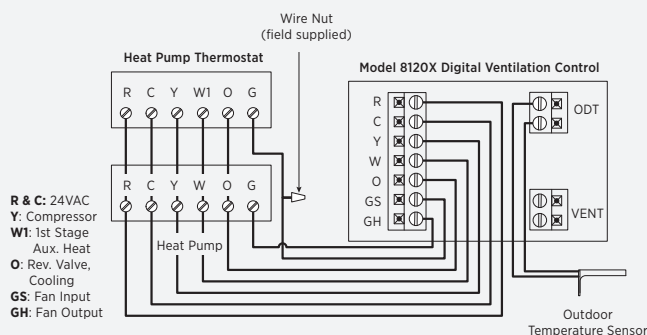
## Controller interface



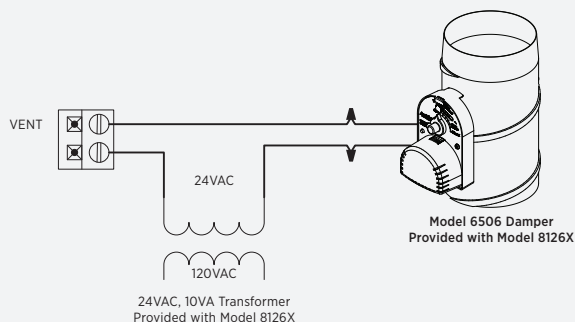
## Wiring to furnace



## Wiring to heat pump



## Wiring to Model 6506 Damper



The submittal is intended to show general, overall product dimensions and provide guidance for installation clearance. Drawings are not to scale. Ensure submittals are current. Research Products reserves the rights to make product change without notifications or obligations.