

AQS 201 INSTALLATION PROCEDURE

General Description:

The AQS 201 (right) is a **completely integrated** residential ventilation control unit which normally mounts directly to one wall of a standard HVAC return plenum. The only wiring required is to the low voltage terminal strip at the inside blower cabinet. An integrated air valve provides a tight seal when closed and is aerodynamically designed to handle large air volumes when opened. It provides easily accessible controls for adjusting both the ventilation period and the maximum wait time between ventilation periods. A short accelerated test cycle is initiated by simply pushing a TEST button on the panel. The AQS 201 contains built in power line surge protection and automatically re-settable fusing for both safety and reliability. Only safe, low voltage 24 volts ac operating power is used. Air valve positioning is accomplished with an extremely reliable 24 vac timing motor, which needs no periodic maintenance. Ventilation cycles are initiated with each start of the HVAC system and terminated at the end of the run time period (adjustable). The AQS 201 is available in four models as described below:

Model AQS 201TH

Equipped with incoming outdoor air stream **temperature** and **humidity** sensing. Ventilation cycle is terminated when incoming outdoor air is outside preset high or low temperature limits **or** above a preset relative humidity level.

Model AQS 201T

Equipped with incoming outdoor air stream **temperature** sensing. Ventilation cycle is terminated when incoming outdoor air is outside preset high or low limits.

Model AQS 201H

Equipped with incoming outdoor air stream **humidity** sensing. Ventilation cycle is terminated when incoming outdoor air is above a preset relative humidity set point.

Model AQS 201

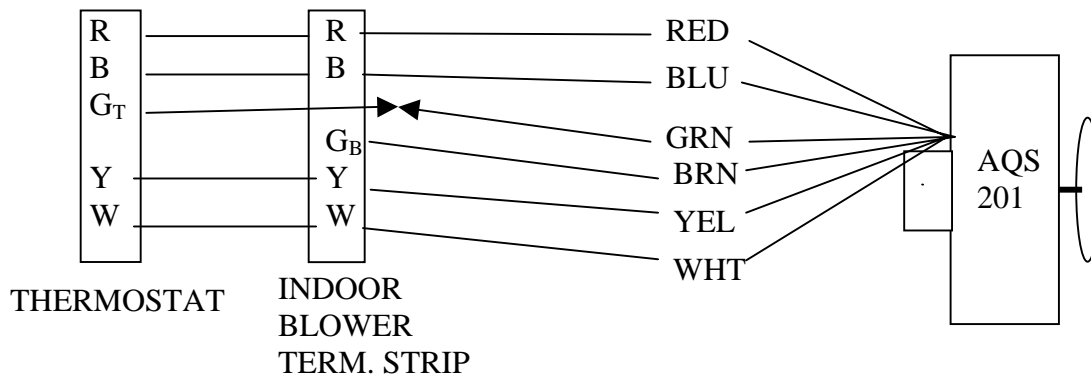
Provides ventilation run time and wait timing without integrated outdoor air quality sensing.



INSTALLATION:

To install any model of the AQS 201 series:

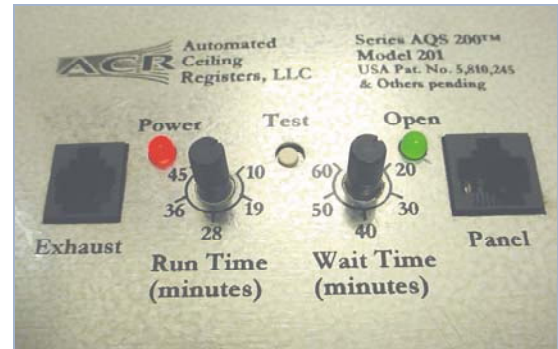
- 1) Select any convenient side or top surface of the HVAC system return plenum and cut a 9 ¾ inch Diameter, round access hole. For sheet metal plenums, use self-tapping screws driven through the AQS box flanges to attach the unit directly to the plenum wall. A special sheet metal mounting plate is available for installation onto fabricated duct board plenums. Contact ACR for details.
- 2) Seal all mating surfaces and cracks with mastic or other suitable sealant compound.
- 3) Connect 6-conductor thermostat cable to indoor blower unit low voltage terminal strip as shown:



Where: R = Red (24vac high) B = Blue (24 vac low) G_T = Green (Thermostat Fan)
 G_B = Brown (System Blower) Y = Yellow (Cool) W = White (Heat)

Note: The **Y** connection enables the AQS to automatically terminate the ventilation cycle (if active) when the compressor is turned *off* by the HVAC system. The **W** connection acts to disable the AQS humidity sensor when the HVAC system activates first stage heating and to automatically terminate the ventilation cycle when the heating cycle ends. The AQS white wire might connect to a different terminal on the blower terminal strip for heat pump systems, e.g. to the **O** terminal (reversing valve) for heat pumps that activate the reversing valve for the HEAT mode. In general, the AQS white wire should connect to the terminal which is active only during first stage (primary) heat. The yellow **Y** wire and the white **W** wire can simply be left unconnected if the control functions described above are not wanted.

4) Momentarily press the **TEST** button on the AQS panel and observe that one open/close cycle occurs. Verify that during the approximately 20 second **OPEN** period, the green light on the panel is illuminated, the air valve moves to an open position, and the HVAC system blower is turned on. At the end of the **OPEN** period, the green light on the panel is turned off, the air valve moves to its closed position, and the blower motor is turned off. The system automatically returns to normal operation at the end of the test period.



5) Set the **RUN TIME** control to the desired ventilation time for each ventilation cycle (between 10 and 45 minutes) as directed on the AQS Settings chart contained on the front panel of the AQS.

6) Set the **WAIT TIME** control to the desired maximum time before the AQS initiates its own ventilation cycle (between 20 and 60 minutes) as directed on the AQS Settings chart contained on the front panel of the AQS.

7) Connect a 6" duct to the AQS collar and to the outside ventilation port. Outside ventilation port should be equipped with an adequate bug screen and a ventilation air filter if a "whole house" filter is not provided between the return plenum and the blower.

The ASQ 201 system is now ready to function as an automated ventilation system.

Remote Monitor Display (-D) option:

An optional and inexpensive but highly recommended plug-in remote monitor (right) is available. It provides the homeowner with monitoring and control of the AQS ventilation system. It is typically mounted in a hall or other convenient location. It connects to the AQS panel with a modular cable and mounts directly to a standard electrical wall outlet box. The remote panel provides LED lights to indicate proper operating **power**, valve **open** indication, poor air **quality** status, and allows the homeowner to **manually** initiate a standard ventilation cycle and to **disable** the AQS when the homeowner is planning to be away for an extended period, e.g. during a vacation period. While the AQS 201 will function normally without the remote monitor, it is highly recommended that the HVAC contractor install this device for the convenience, operational control and confidence level it provides to the homeowner.

Note: The AQS 201 is microprocessor controlled and can have its operating parameters, e.g. run time, wait time, high temp set point, low temp set point and humidity set point all factory preset for the geographical region and the particular floor plan of the home involved. Contact ACR for details.

