

VAV Box Sequence of Operation

Occupancy:

With Occupancy Sensor: When the AHU supplying the VAV becomes occupied the VAV shall be occupied for a period of one Hour (adjustable). After forced Occupancy time period the VAV shall be in unoccupied mode unless the zone occupancy sensor is activated.

Without Occupancy Sensor: The VAV shall follow the AHU or Zone schedule.

Cooling Sequence:

On a rise in space temperature above the space cooling set-point, the box will be modulated open from the cooling minimum flow set-point to the cooling maximum flow set-point.

On a decrease in space temperature below the cooling set-point, the box will modulate to the minimum cooling flow set-point. When in the unoccupied mode, the cooling set-point will be 5 deg. F (Adjustable) above the occupied cooling set-point. The cooling minimum flow set-point will be zero in the unoccupied mode. **Note: The damper shall be driven to the closed position when the minimum flow setpoint is zero to prevent the damper from hunting.**

The Min Cooling setpoint shall be 68 deg.F

Heating Sequence:

On a fall in space temperature below the space heating set-point, the box will modulate to the heating flow set-point and the reheat and/or perimeter heating valves will be modulated open to maintain the space temperature at the heating set-point. The occupied space heating set-point shall be a minimum of 2 deg. F below the occupied space cooling set-point. The unoccupied space heating set-point shall be 5 deg. F (Adjustable) below the occupied space heating set-point. If the VAV is in unoccupied mode and controlling perimeter radiation this should always remain under control during unoccupied times at the unoccupied heating setpoint.

The Max Heating setpoint shall be 76 deg.F

Minimum Requirements:

Discharge air temperature sensors shall be provided downstream of all reheat coils.

Each box shall have occupied and unoccupied heating and cooling temperature set-points. Occupied heating and cooling set-points must have a minimum of 2 deg. F deadband between them. Space Set-points shall be adjustable between the max heat and min cooling Set-points from the space tstat. With the exception of common spaces which shall have none adjustable tstats

Each box shall have maximum and minimum cooling flow set-points and maximum and minimum heating flow set-points as determined by balancing procedures.

In the unoccupied mode the flow set-point shall be zero if not calling for heating or cooling. Occupancy sensors shall control lighting and VAV box occupancy mode.

Reheat and perimeter control valves shall not operate from the same control signal. They shall operate from their own control points so they can have separate set-points and signals. This will allow for the heat to operate separately, sequenced in parallel, depending on needs of the space.