



# ADDENDA

**ASHRAE Addendum i to  
ASHRAE Guideline 36-2021**

# High-Performance Sequences of Operation for HVAC Systems

Approved by ASHRAE and the American National Standards Institute on February 29, 2024.

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## FOREWORD

*This addendum rearranges the heating and cooling loop output-based reset of the supply fan speed and supply air temperature setpoints for single zone VAV air handling units. The revisions better reiterate that all three signals (fan speed, SATsp, and SATsp-C) are reset together based on the heating and cooling loop outputs.*

***Note: In this addendum, changes to the current guideline are indicated in the text by underlining (for additions) and strikethrough (for deletions) unless the instructions specifically mention some other means of indicating the changes.***

### Addendum i to Guideline 36-2021

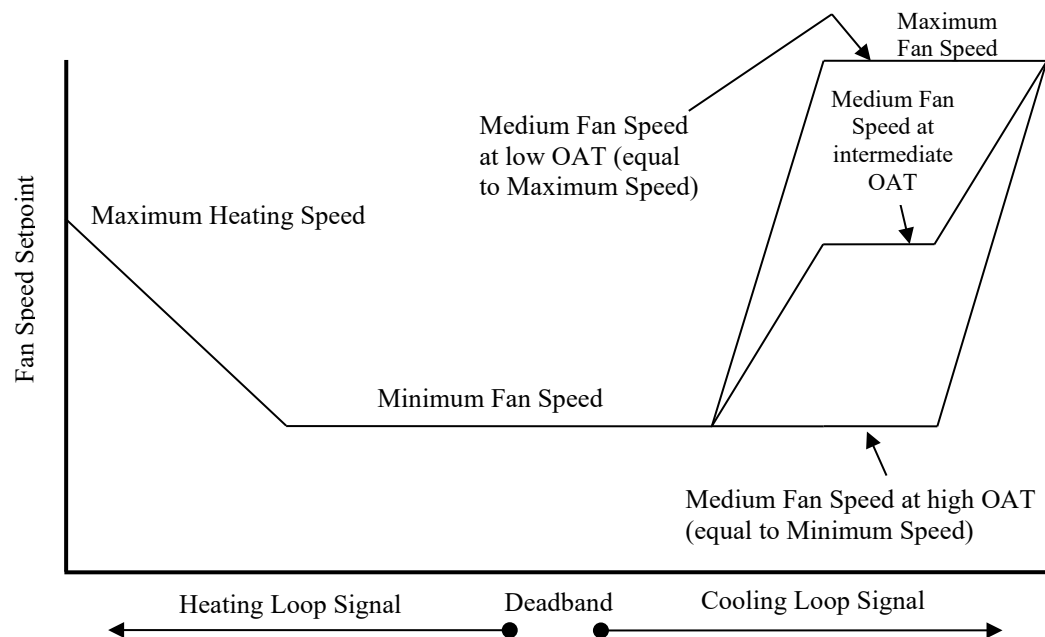
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Revise Section 5.18.4.6 as follows:

- 5.18.4.6. Figure 5.18.4.5-2 separates Figure 5.18.4.5-1 in two for clarity and to illustrate the relative setpoints. However, both fan speed and supply air temperature setpoints are reset simultaneously and by the same signal: the value of the Heating Loop or Cooling Loop.
- a. For a heating-loop signal of 100% to 50%~~;~~~~f~~
    1. Fan speed is reset from MaxHeatSpeed to MinSpeed
    2. SATsp is Heat SAT
  - b. For a heating-loop signal of 50% to 0%~~;~~~~f~~
    1. Fan speed setpoint is MinSpeed
    2. SATsp is reset from Heat SAT to the deadband value
  - c. In deadband~~;~~~~f~~
    1. Fan speed setpoint is MinSpeed
    2. SATsp is the deadband value
  - d. For a cooling-loop signal of 0% to 25%~~;~~~~f~~
    1. Fan speed is MinSpeed
    2. SATsp is reset from the deadband value to Cool SAT minus 1°C (2°F), while SATsp-C is the deadband value
  - e. For a cooling-loop signal of 25% to 50%~~;~~~~f~~
    1. Fan speed is reset from MinSpeed to MedSpeed
    2. SATsp and SATsp-C are unchanged

- f. For a cooling-loop signal of 50% to 75%:
  - 1. Fan speed is MedSpeed.
  - 2. SATsp remains at Cool SAT minus 1°C (2°F), SATsp-C is reset from the deadband value to Cool SAT
- g. For a cooling-loop signal of 75% to 100%:
  - 1. Fan speed is reset from MedSpeed to MaxCoolSpeed
  - 2. SATsp and SATsp-C are unchanged
- ~~h. For a heating loop signal of 100% to 50%, SATsp is Heat SAT.~~
- ~~i. For a heating loop signal of 50% to 0%, SATsp is reset from Heat SAT to the deadband value.~~
- ~~j. In deadband, SATsp is the deadband value.~~
- ~~k. For a cooling loop signal of 0% to 25%, SATsp is reset from the deadband value to Cool SAT minus 1°C (2°F), while SATsp-C is the deadband value.~~
- ~~l. For a cooling loop signal of 25% to 50%, SATsp and SATsp-C are unchanged.~~
- ~~m. For a cooling loop signal of 50% to 75%, SATsp remains at Cool SAT minus 1°C (2°F), SATsp-C is reset from the deadband value to Cool SAT.~~
- ~~n. For a cooling loop signal of 75% to 100%, SATsp and SATsp-C are unchanged.~~

*In cooling, the economizer is controlled to a lower setpoint than the cooling coil (i.e., SATsp < SATsp-C) so that a low-temperature excursion does not cause the economizer to close inadvertently while cooling with mechanical cooling.*



**Figure 5.18.4.5-2 Control diagram for SZVAV AHU—fan speed.**

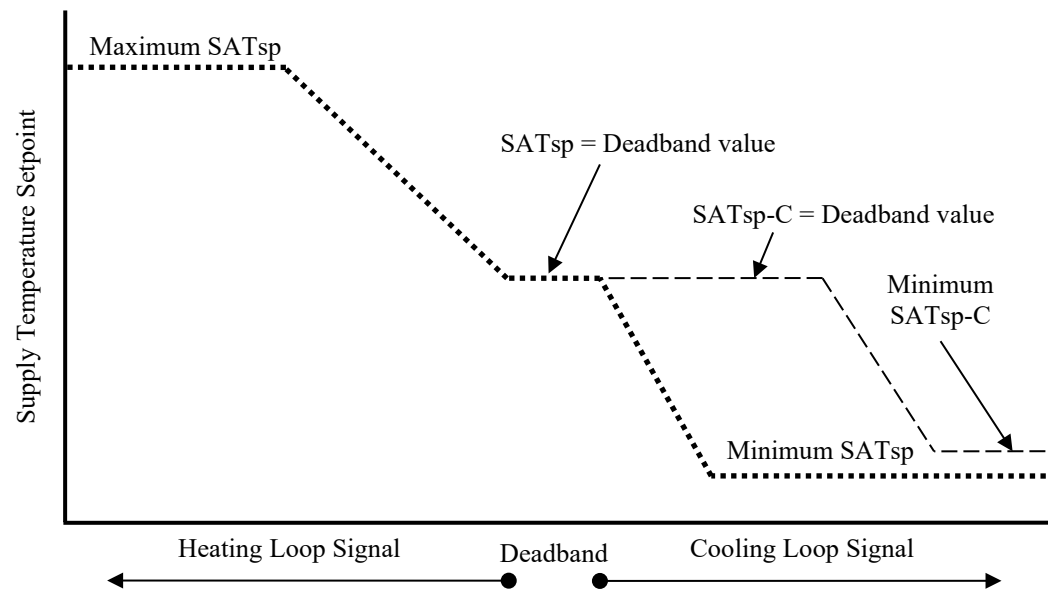


Figure 5.18.4.5-3 Control diagram for SZVAV AHU—supply air temperature.

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