Addendum i to
ASHRAE Guideline 36-2018

Public Review Draft

Proposed Addendum i to Guideline 36-2018, High-Performance Sequences of Operation for HVAC Systems

First Public Review (November 2019)
(Draft shows Proposed Changes to Current Guideline)

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(This foreword is not part of this guideline. It is merely informative and does not contain requirements necessary for conformance to the guideline. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE.)

FOREWORD

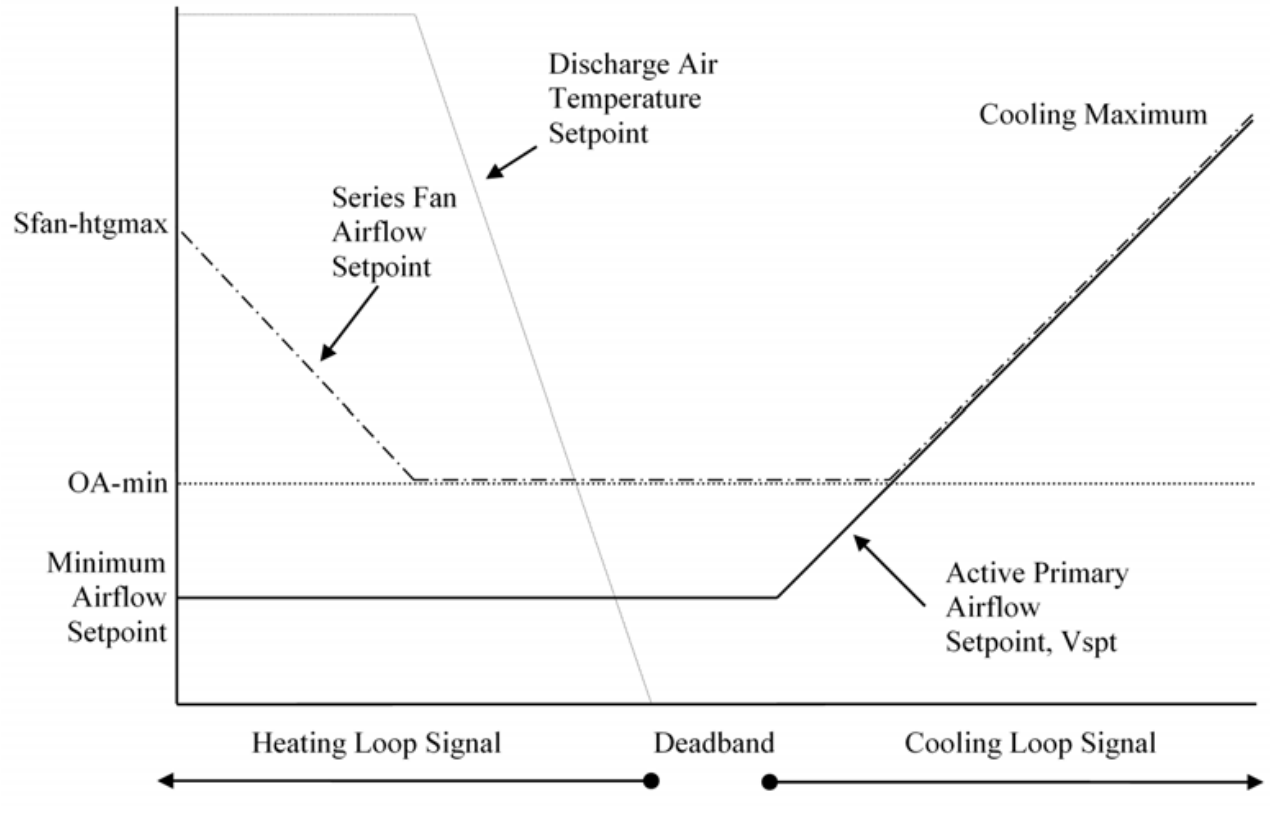
This addendum revises the way the variable speed series fan is controlled. Currently, the speed tracks the primary airflow. This revision maps the fan airflow setpoint from a minimum equal to the larger of the ventilation minimum and the primary airflow minimum, up to the cooling maximum. This intent is to help ensure that the fan airflow exceeds the primary airflow, so that no primary air exits the induction port into the return air plenum, recognizing that the actual fan airflow and actual primary airflow can vary from setpoint. Note that this will only be effective if the ventilation minimum is larger than the primary airflow minimum, as it will be if the designer is taking advantage of the indirect ventilation capability of the recirculated return air from other zones. If the ventilation minimum is the same as the primary airflow, the sequence is effectively the same as the current sequence.

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. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum i to Guideline 36-2018

(IP and SI Units)

Revise Figure 5.10.5 and Section 5.10.5.1 as follows:



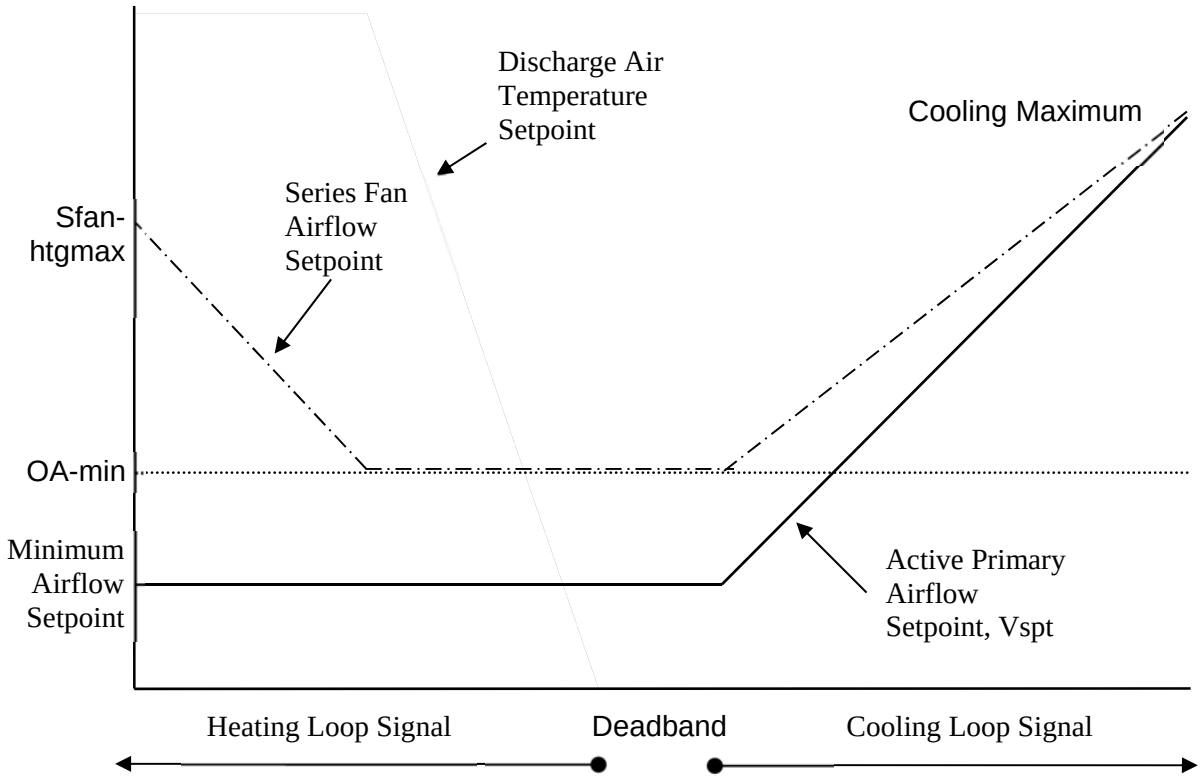


Figure 5.10.5 Control logic for variable-volume series fan-powered VAV zone.

5.10.5.1 When the Zone State is Cooling

1. The Cooling Loop output shall be mapped to the primary airflow setpoint from the cooling minimum to the cooling maximum airflow setpoints.

   a. If supply air temperature from the air handler is greater than room temperature, primary airflow setpoint shall be no higher than the minimum and the series fan airflow setpoint shall be no higher than OA-min.

2. The Cooling Loop output shall be mapped to the ~~The~~series fan airflow setpoint ~~shall be the~~ from the larger of OA-min and the primary airflow cooling minimum setpoint to the cooling maximum airflow setpoint.

3. Heating coil is off.

Section 5.10.5.1 is also modified by addendum h, which is not yet published. If addendum h and this addendum are published, the section will appear as follows. Changes made by addendum h are not shown below in strikethrough/underline:

1. The Cooling Loop output shall be mapped to the active primary airflow setpoint from the minimum endpoint to the cooling maximum endpoint.

   a. If supply air temperature from the air handler is greater than room temperature, the active

primary airflow setpoint shall be no higher than the minimum endpoint and the series fan airflow setpoint shall be no higher than OA-min.

2. The Cooling Loop output shall be mapped to the ~~The~~ series fan airflow setpoint ~~shall be the~~ from the larger of OA-min and the ~~active~~ primary airflow minimum ~~setpoint~~endpoint to the cooling maximum endpoint.

3. Heating coil is off.