

SELECTION PROCEDURE

Example of how to size an SDV using the following parameters:

1. Max primary airflow is 500 CFM
2. Min primary airflow is 150 CFM
3. Inlet static pressure is 1.0"
4. Downstream static pressure drop is 0.2"
5. Radiated NC to be less than 30
6. Discharge NC to be less than 30

Step 1

Compare Max and Min airflow to ranges found on page 5. Sizes 06 and 07 both fall within the published ranges.

Step 2

Check if there is sufficient static pressure. For size 06 at 500 CFM, static pressure drop is 0.283 from page 9. For size 07 at 500 CFM, static pressure drop is 0.141. Unit static pressure drop is then added to the downstream static pressure drop and compared to the inlet static pressure. The sum of pressures for both the size 06 and the 07 are less than the inlet static pressure available. Therefore, both are still valid possibilities.

Note:

Remember to include any pressure drops from any unit accessories (such as water coils) with the unit static pressure requirements.

Step 3

The acoustical requirements are checked against the radiated and discharge tables on page 16. For size 06, the discharge NC is 28 and the radiated NC is 35. This does not meet the requirement for the radiated NC to be less than 30. For size 07, the discharge and the radiated NC is 26. Since the size 07 was the only size to meet all requirements, the size 07 would be the best choice for this example.

Comments on oversizing a terminal unit

Typically when increasing a unit size, the static pressure and sound power levels both decrease. Although this can be beneficial in some applications, caution needs to be taken when oversizing a unit. The damper controls the airflow most effectively in the upper range of the published airflow. The Tuttle & Bailey Flo-Cross® works very well at the lower range of airflows when compared to other sensors within the industry, but if the airflow falls below the published range, the controller may fail to maintain the target airflow consistently.

