

SELECTION PROCEDURE & GENERAL INFORMATION

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

1. Max primary airflow is 400 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 48

Step 1

Compare Max and Min airflow to ranges found on page 10. Sizes 05, 06 and 07 both fall within the published ranges.

Step 2

Check if there is sufficient static pressure found on page 10. For size 05 at 400 CFM, static pressure drop is roughly 0.324. For size 06 at 400 CFM, static pressure drop is 0.149. For size 07 at 400 CFM, static pressure drop is 0.080. 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 all sizes are less than or equal to the inlet static pressure available. Therefore, all are still valid possibilities.

Step 3

The acoustical requirements are checked against the radiated and discharge tables on page 10. For size 05, the discharge NC is 53 and the radiated NC 34. This does not meet the requirement for discharge NC to be less than 48 or the radiated NC to be less than 30. For size 06, the discharge NC is 50 and the radiated NC is 27. This does not meet the requirement for the discharge NC to be less than 48. For size 07, the discharge NC is 47 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.

