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Frequently Asked Questions

ESV-Q Integrated Silencer Models

1 What is a silencer?

A silencer is a device that uses sound-absorbing materials to dampen noise. As sound waves pass through it, these materials absorb sound energy. This energy is dissipated as a small amount of heat.

2 What is the difference between a Silencer and an Attenuator?

In an attenuator, sound is reduced by using a section of duct lined with acoustical media. A silencer uses both baffling and acoustical media to break down sound waves and lower sound.

3 What is an integrated silencer?

An integrated silencer is one in which a silencer is integrated into a terminal unit which also includes an attenuator section.

4 What is the application for this product?

Environments in which "quiet" is very important are prime applications. These include schools and hospitals. But, generally speaking, wherever a quieter space is desired, this product can be specified.

5 How much does this model reduce sound compared to a standard terminal unit?

The ESV-Q reduces the sound by about 10 NC (Noise Criteria). In HVAC systems, silencers are designed to reduce sound in the critical 125 Hz and 250 Hz bands.

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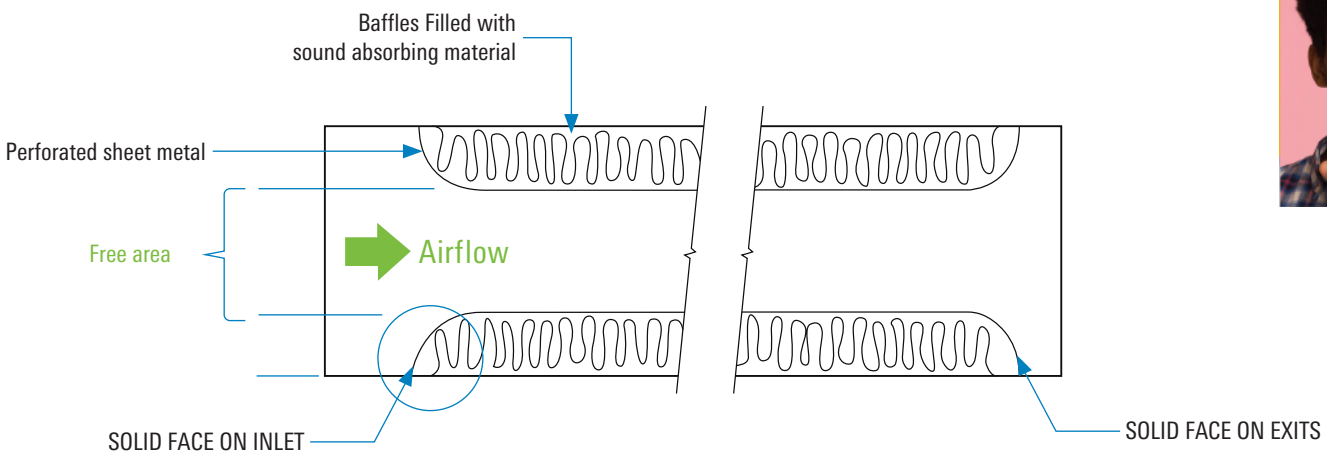

6 How does it work?

Above is a top-view cutaway sketch of the silencer section. The baffles on each side are filled with sound absorbing material which sits behind perforated sheet metal so that the sound can enter into these chambers. As sound travels through, its waves are dampened along the way. Picture a sound wave within this chamber moving side-to-side (or up and down, the way this image is shown as a top view). The Free Area is a critical engineering dimension. As you can see, it's the space between the baffles. If there's more, then there's less sound dampening, and if there's less, then the pressure drop gets impacted. Also note the "bullnose" shape at the beginning and end of the baffles. This helps the airflow.

7 In what sizes are these units available?

These are available in round inlet sizes of 4", 5", 6", 7", 8", 9", 10", 12", 14", 16", and a rectangular inlet size of 24"x16".

8 Is electric reheat available with these units?

No, this product has not been designed for electric heat. However, hot water reheat is available.

9 Are models available for critical environments?

Yes. Hospital Grade models are available in which the baffling material is polymer-coated to prevent fibers from entering the air stream.

10 Is the ESV-Q's performance certified?

Yes. It is certified to ASHRAE Standard 130, Laboratory Methods of Testing Air Terminal Units, and AHRI Standard 885, Procedure for Estimating Occupied Space Sound Levels in the Application of Air Terminals and Air Outlets.