

# SOUND TRAP HOUSING

Greenheck's patented Sound Trap housing is unique in the air movement industry.

With floor space at premium prices in the building industry, eliminating costly add-on silencers has a two-fold benefit. First, conventional acoustical silencers add considerable length to the unit and are ineffective for reducing sound radiated from the fan housing. Secondly, add-on silencers reduce air performance by adding additional static pressure to the system. In critical applications, this may increase brake horsepower and result in a larger motor requirement.

Greenheck's Sound Trap housing increases the fan length only slightly to reduce sound transmitted from the inlet and outlet. No additional pressure drop is experienced using the Sound Trap housing. The Sound Trap housing is available on all Greenheck vane axial fans, direct or belt drive with adjustable pitch or response control rotors.

U.S. Patent 4,508,486. Canadian Patent 1,209,974.

## TYPICAL SOUND POWER ATTENUATION

Greenheck Sound Trap construction effectively reduces inlet and outlet sound power levels in each of the eight octave bands as shown below.

Octave Band	1	2	3	4	5	6	7	8
dB Reduction	0	-3	-7	-10	-10	-7	-7	-1

## CONVENTIONAL VANE AXIAL WITH SILENCERS COMPARED TO GREENHECK'S SOUND TRAP DESIGN.

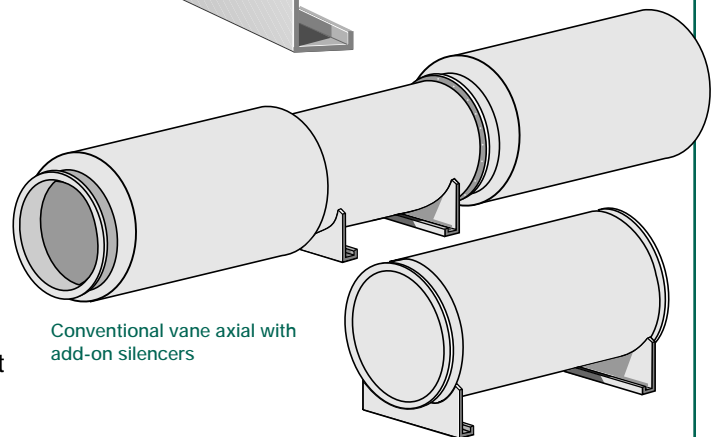
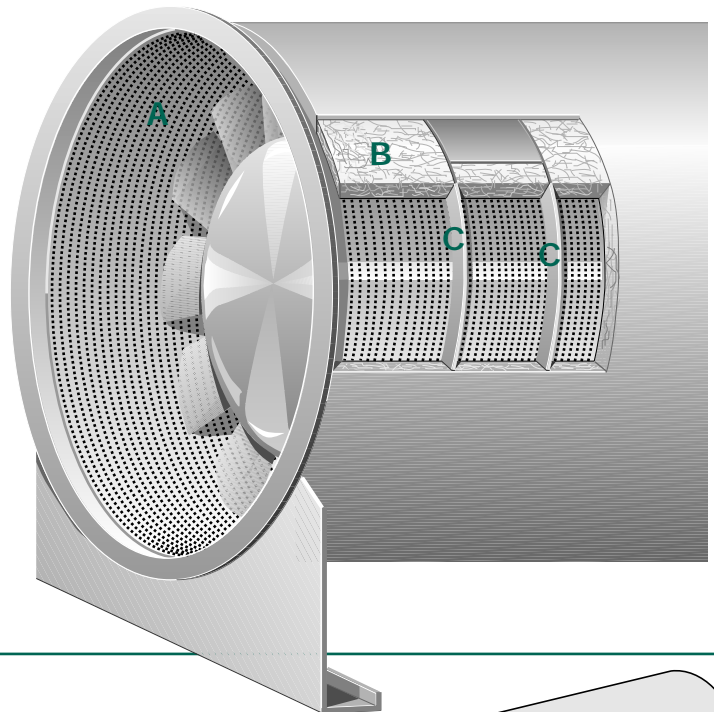
Costly and bulky add-on silencers take up valuable floor space, create additional pressure losses and hinder service access to vane axial components located at the inlet and outlet. Since sound absorbing materials are located prior to the inlet and downstream from the outlet, no sound attenuation is provided for sound radiated through the fan housing.

Greenheck's patented Sound Trap fan construction adds just a few inches to the fan length. This additional length provides sound attenuation between the rotor and fan inlet, reducing sound transmitted from the inlet. Radiated sound is effectively reduced by the Sound Trap fan housing.

## SOUND TRAP HOUSING CONSTRUCTION FEATURES

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- A perforated steel inner liner directs sound waves into sound absorbing material between the inner liner and solid steel outer shell converting acoustical energy to heat.
- Two inches of sound absorbing fiberglass is sandwiched between the inner and outer shell. The fiberglass meets requirements of NFPA 90A and 90B, ASTM C 1071 Type I and TIMA Standard AHC-101. The liner meets all requirements for 25 flame spread or 50 smoke development when tested in accordance with ASTM-E84, UL-723 and NFPA-255.
- Steel bands seal the insulated cavity against pressure loss.
- Sound Trap housing provides no additional pressure drop when compared to standard vane axial housings.



Conventional vane axial with add-on silencers

Greenheck's exclusive Sound Trap Vane Axial