A multi-story office building was upgraded by reducing noise from existing on-floor air handling units.

PROBLEM: Insufficient straight duct

Special silencers had to fit into the existing ductwork and there were no straight runs.

SOLUTION: Transitional elbow silencers

Transitional elbow silencers were designed to replace existing duct fittings.

PROBLEMS: Excessive energy consumption
Excessive pressure drop

Saving energy was a prime objective. Since the fans and motors existed, added pressure drop had to be minimal.

SOLUTION: EX-type elbow silencer

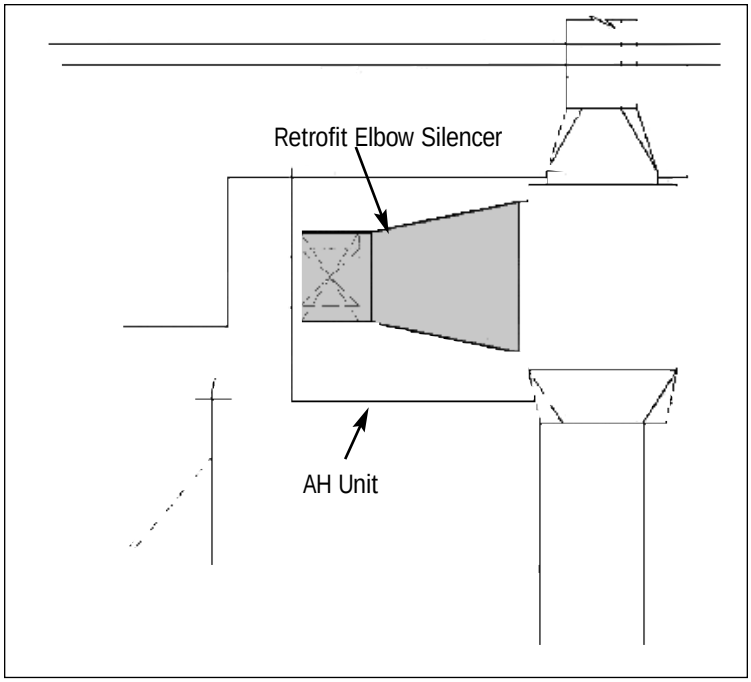
The body size of the silencer was designed to be much larger than the connection size allowing more free area within the silencer.

PROBLEM: Unacceptable installed performance

Guaranteed performance was required because of the substantial investment and the critical nature of the retrofit upgrade. Multiple silencers, all the same size, were required.

SOLUTION: Silencer witness test

A witness test on an actual size production silencer was conducted in the Vibro-Acoustics aero-acoustic laboratory for the mechanical and acoustical consultants. Performance was achieved in the lab and in the final installation.



Mechanical Room Drawing (plan view) shows existing ductwork and complex fitting replaced by the elbow transitional silencer.

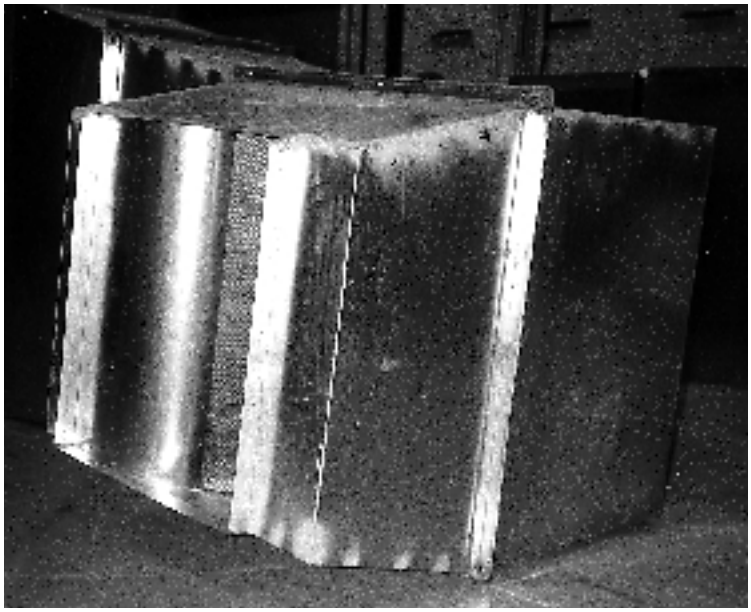


Photo of elbow transitional silencer on its side ready for test. Connection (to AH unit) size is less than external cross sectional body size (ex-type for lower pressure drop).

Copyright© 1998 Vibro-Acoustics