

A retrofit 240,000 CFM air handling system is squeezed into very limited space in an historic building.

PROBLEM: High velocity airflow

The existing shaft space prevented the reduction of the riser air velocity below 5,000 FPM. The large air volume take-offs at each floor required special designs for noise control and to minimize generated noise at the fittings.

SOLUTION: Special take-off silencers

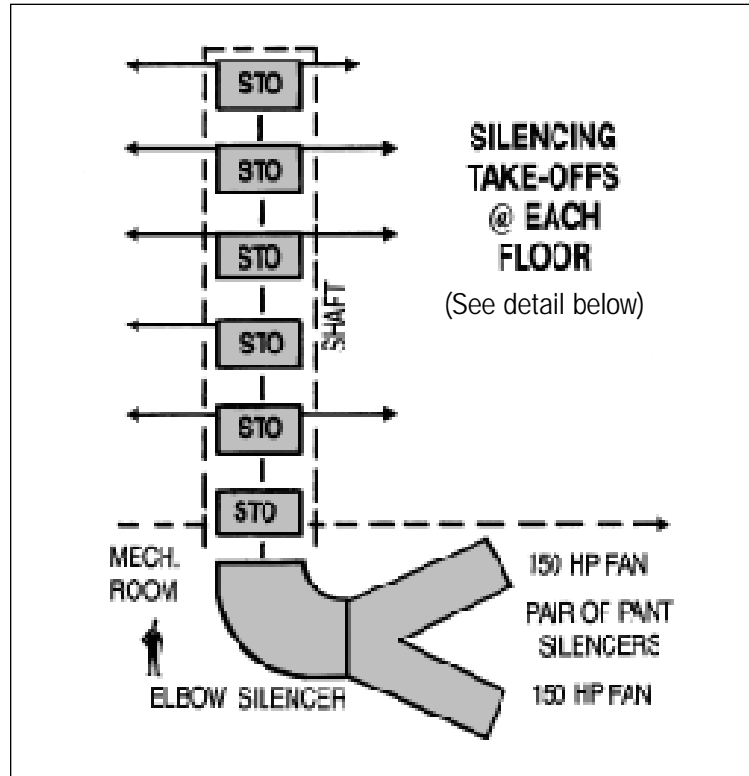
Special silencer take-offs were designed for each floor which are total pressure driven. They also were designed to provide a self-balancing system.

PROBLEM: Excessive energy consumption

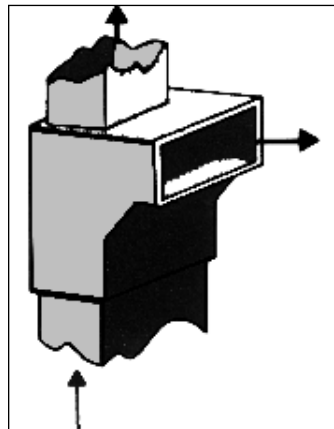
Generally, high velocity systems result in high pressure drops across duct components such as elbows and duct take-offs which, in turn, result in high energy consumption.

SOLUTION: Streamlined silencing

In addition to the above self balancing design which reduces the overall total duct system pressure drop, aerodynamic discharge "pair-of-pants" transition and elbow silencers were designed to connect two fans in parallel with minimum pressure drop.



Silencing was built into the duct take-offs, "pair-of-pants" and huge elbow fittings on the fan discharges.



Special duct take-off fitting with built-in silencing (STO).