

PROJECT SOLUTIONS

Project: Lietrim Computer Center
Application: AHU Silencers (Centrifugal Fans)

Noise from 46 computer room air-conditioning units could not exceed RC-40.

PROBLEM: Unacceptable installed performance

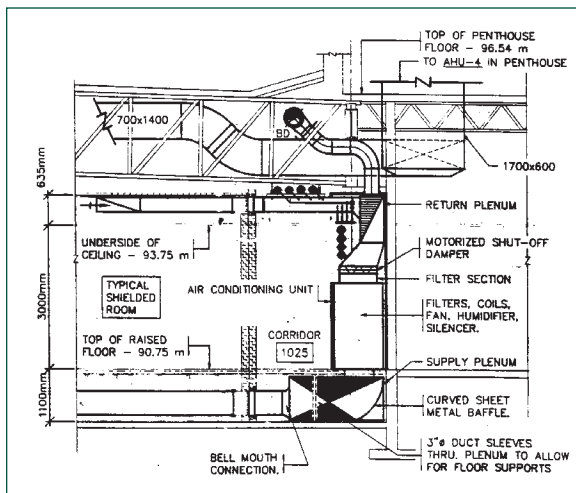
Multiple units delivering 2,500, 5,000 and 10,000 CFM were to be installed at a facility having a specified noise criteria of RC-40 in both the computer room and corridors. Proof-of-performance was to be supplied by witness testing mock-ups of all three unit sizes by the owner.

SOLUTIONS: Recommendations of design changes
Supply of standard duct silencers

Each air conditioning unit and its associated ductwork and standard silencers were mocked up and tested. Sound intensity measurements were used to determine the amount of breakout noise through the unit casings. As a result of the subsequent improvements made to the casing, the specified RC-40 criteria was achieved.



Mock-up of prototype air-conditioning unit for testing.



Additions were made to the above contract drawing. Silencers were added to the return ductwork and supply silencers on the fan discharges extended down into the supply plenums. (The specification called for silencers to achieve RC-40 but did not give detailed silencer performance or their location)