

PROJECT SOLUTIONS

Project: Motorola Semiconductor Facility
Application: Fan Silencers (Axial)

Special silencers for 17 horizontal 60" diameter vaneaxial fans control noise to clean room facility.

PROBLEM: Excessive energy consumption

Since the 60,000 CFM, 40 HP fans run continuously, energy consumption was an important consideration and proof of performance was specified.

SOLUTIONS: Special circular silencers Full scale testing

Fan circular silencers were designed to be directly connected to the fans to reduce noise at the source. The discharge silencers are round cone transitional type which connect to the 70" circular ductwork. The open inlet silencers have special aerodynamic designs to accelerate the inlet air flow and direct it to the axial fan blades. Center-bodies for inlet and discharge silencers are sized to match fan hubs and motors respectively.

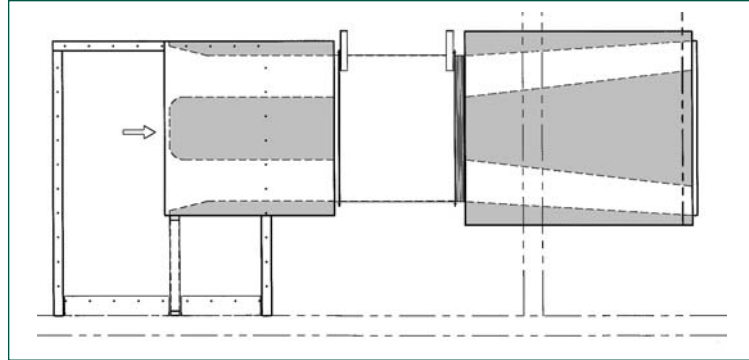
A full scale aerodynamic design of the fan/silencing system was tested and optimized in Vibro-Acoustics' facility. It was then shipped to an air handling unit test facility for final witness testing by the consulting engineer and customer to ensure it met the maximum energy consumption allowable.

PROBLEM: Exposed glass fiber

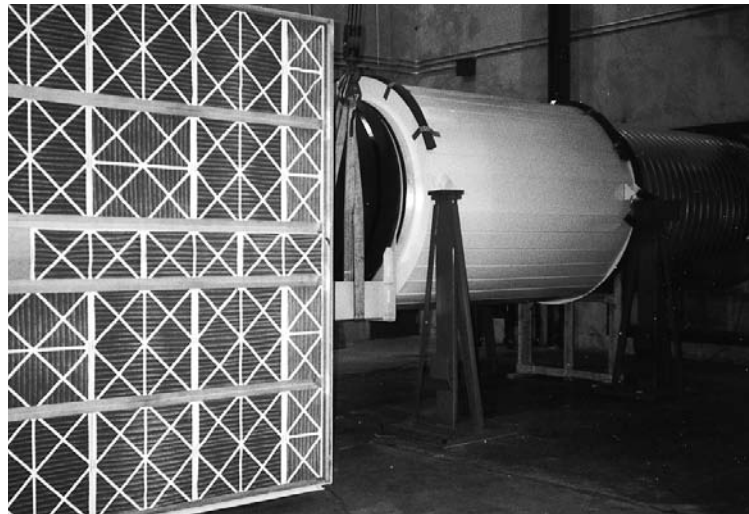
Special construction requirements for the clean room application were specified.

SOLUTION: IAQ silencers

Acoustic grade glass fiber was wrapped in glass fiber cloth. Silencers were cleaned, shrink wrapped and shipped to site with protective crating.



Elevation: Axial fan silencing.



AH unit discharges into reverberation chamber (test set-up).