

PROJECT SOLUTIONS

Project: Queen's University Library
Application: Duct Silencers (Centrifugal Fan Systems)

Noise control for library fans add negligible pressure drop.

PROBLEM: Excessive energy consumption

Fans operate for long hours each day, seven days per week. Therefore, added silencing pressure drop, increasing motor horsepower and energy consumption was not allowed.

SOLUTION: Rectangular low pressure silencing (RLP)

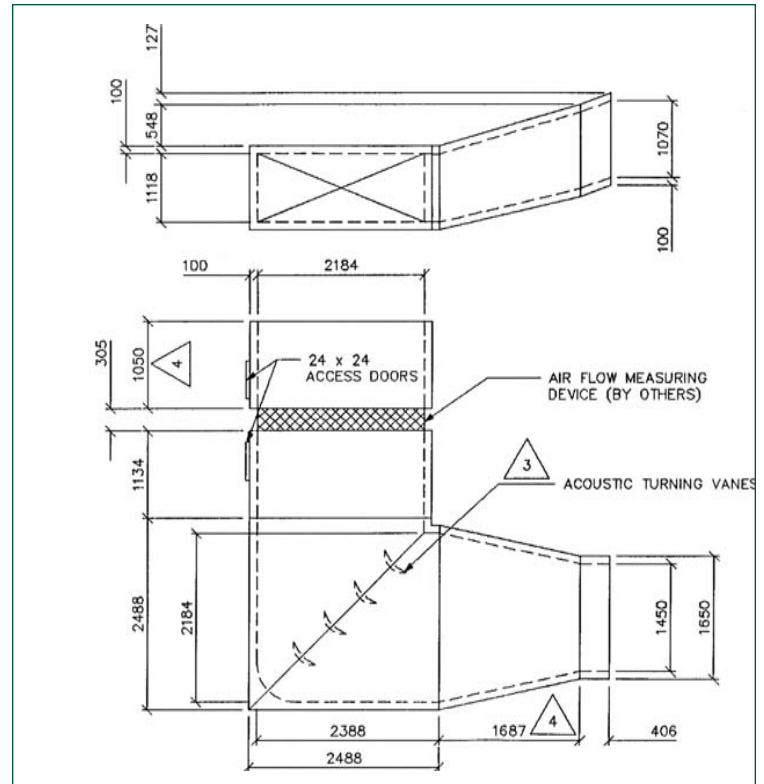
RLP silencing systems were supplied which added negligible pressure drop in excess of standard ductwork they replaced. Actual pressure drops were no more than 1/8 inch per system. The RLP systems were designed to contain four inch thick acoustic media on all four duct walls protected by perforated metal. The air flow cross sectional dimensions of the ducts were not reduced and no internal splitters were added. Sufficient length was supplied to provide the necessary acoustic insertion loss. Turning vanes were acoustic type.

PROBLEM: Access to flow measuring

Flow measuring devices were required within the length of RLP ductwork.

SOLUTION: Access Doors

Access doors were installed in the RLP silencing systems, both upstream and downstream of the flow measuring devices.



Actual approval drawing submitted.



Photograph of elbow silencing section with acoustic turning vanes.