

# IBM Celestica

Application: AHU Silencers (Centrifugal Fans)

## ! CHALLENGE

- > High velocity airflow
- > Limited space and fast delivery

High duct velocities resulted from the limited space between the air handling unit and the existing steel above. The unit was so close to the occupied space that only 8' of double elbows existed at one return. Because of the space limitations and the fast track schedule a quick assembly design was required.

## ✓ SOLUTION

### SILENCING SYSTEMS

Complex aerodynamic silencing systems were designed to use the length between the unit and the adjacent occupied space. The space between the structural steel was utilized to expand the silencer outside body dimensions. This allowed much higher velocities without excessive pressure drops and generated noise.

Silencing systems for large air handling unit are squeezed into existing mechanical room of high tech manufacturer

Special rectangular to oval transitional silencers were supplied for connection to some distribution ductwork.

The overall design was created by the consulting engineer. It was our job to design the internals of the silencing systems to achieve the best possible noise criteria and pressure drop.

Silencer sections were designed to bolt together on site and hanging brackets were built into the flanges. Construction was class 2 - 16 gauge and all external seams continuously welded. The first product was shipped in two weeks and the order was completed in eight.

Right:  
Plan view

Below:  
Side Elevation: 3 – 18,000 lb. silencers, designed as systems in modular form, are installed over air handling units. Note the oval connections for the distribution ductwork.

