

Case Study:

# IAC Acoustics Hemi-Anechoic Chamber

PlanarCHOIC™ Test Chamber



## IAC Acoustics Provides Hemi-Anechoic Chamber to HVAC Component Manufacturer

IAC Acoustics recently provided a PlanarCHOIC Chamber for an HVAC component manufacturer who designs, engineers and manufactures residential and commercial fans and blowers for a diverse range of industries. This product expertise requires advanced testing and analysis of fan performance, including acoustic noise testing, analysis, and product sound rating capabilities.

The company's technical staff required a low noise hemi-anechoic acoustic test chamber with approximate dimensions of 20' x 20' x 12'. The intent of this chamber is to provide the space for reliable sound testing of the company's line of fan products. In order to achieve this, the chamber must be quiet enough to allow low-noise products to be tested with a high degree of accuracy.

The location selected for this chamber was in the company's new lab area renovation being proposed for the southwest corner of the plant. A site survey of airborne noise and structure borne vibration was conducted to

determine the suitability of the selected site. Since the room is being used for acoustic testing (sound pressure, sound power and sound intensity) from 100Hz to 10 kHz, it required a background noise at or below 25 dBA during busy periods of plant activity.

Based on both the consultant's recommendations and size constraints within the facility, IAC's Moduline® Noise-Lock III panels (STC 58) and STC 61 Noise-Lock® Doors were selected.

In addition to the acoustic requirements, the need for HVAC solutions existed. IAC's Quiet-Duct® ELBM-LFS Elbow Silencers were also provided to allow ducted 6000 CFM airflow of certain components.

IAC's PlanarCHOIC Chamber provided the required amount of noise isolation meeting at or below 25 dBA and proper K2 correction factors of the ISO 3744:2010 standard that now allows the client to test as required by their suppliers.