

Library in Reston Virginia

Engineer: **Whitman, Requardt & Associates, LLP**

Mechanical Contractor: **Service Mechanical Inc.**

Price Representative: **Havtech**

Price Products: **Acoustic Panels (AP), Rectangular Silencers (RL)**

The chiller servicing a library in Reston, VA had been operating at a disruptive volume for many years, which was an issue for both the library itself and the neighbouring multistory, high-end condominiums. To rectify the issue, the library owner chose to acquire a new, quieter chiller and enclose it to further reduce the sound output, with a goal of reducing overall sound energy surrounding the chiller to 45dBA.

Using the Acoustic Analysis Tool in Price's All-In-One (AIO) software, Price's Application Engineering team developed several potential acoustic enclosure configurations. Taking into account both the 45dBA goal sound level and the space and location constraints, the Price team worked closely with consulting engineer Whitman, Requardt & Associates (WR&A) to determine the optimal solution. Thanks to the Acoustic Analysis Tool, Price was able to guarantee the acoustic performance of the enclosure, validating the confidence of both the library owner and WR&A.

The selected enclosure includes intake silencers at the side, discharge silencers at the top and acoustic panels for the remainder of the enclosure. Each component of the enclosure addresses a different type of sound energy emitted by the chiller, maximizing sound absorption without affecting chiller performance. Acoustic panels address radiated noise, intake silencers address sound energy created by the chiller compressors and extra-long discharge silencers address fan noise at the chiller discharge, as well as sight lines and sound transfer to the top of the multistory condominiums. This enclosure also features professional-engineer-stamped structural support coordinated by the Price team, allowing the top section of the enclosure to be removed in one full piece for future chiller maintenance.

"Price is a one-stop-shop for acoustic analysis and engineer stamped drawings. It makes a big difference." — Keith Gensch, Havtech

Mauricio Salinas of the Price Application Engineering Team travelled to Reston to measure sound levels after the enclosure was installed and evaluate the performance of the new enclosure. The enclosure was found to be extremely effective with an increase of only 3dBA when the chiller was in operation. A sound increase of this level is only distinguishable by the human ear within three feet of the enclosure.

"Pairing Price's acoustical expertise and products with Daikin's Trailblazer chiller was what led to success on this project. This solution paired two of the best HVAC manufacturers in the world providing top quality products in their respective fields." — Tim Dorman, Havtech

This all-local solution, featuring a Virginia-built chiller and Virginia-based consulting engineer, equipment installer and engineering sales company, was enormously successful as a result of cooperation from early in the design process through to completion of the installation.

