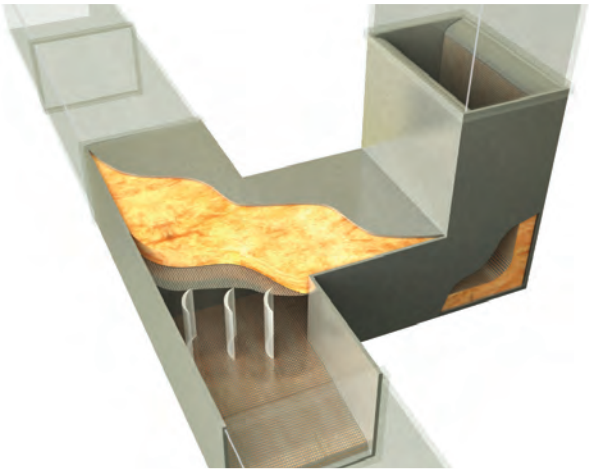
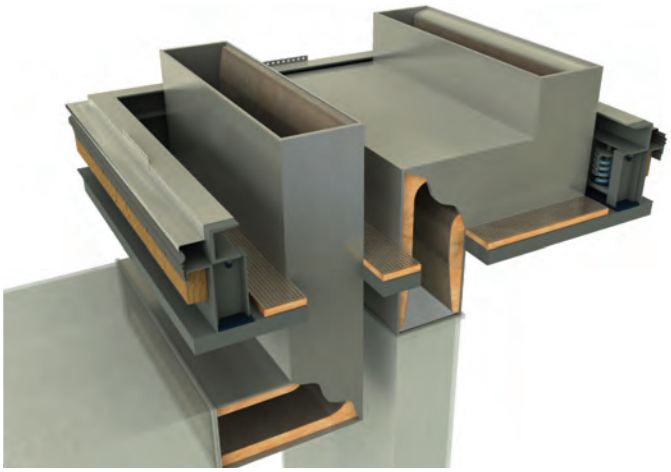
VIBRO-ACOUSTICS®

Noise Control | Vibration Isolation | Restraint Systems

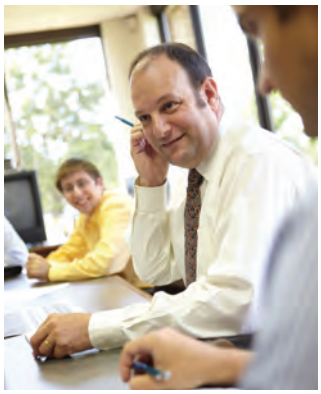


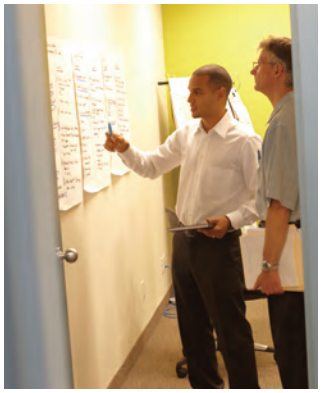


# The Integrated Systems Approach, Illustrated

# Lay-in service... working together at the design stage.

## On average, consultants save 16 hours per project when working with Vibro-Acoustics.





**Our free Lay-in (design assist) service is the execution of the Integrated Systems Approach.** Your risk is uniquely minimized, because we take ultimate responsibility for the performance of noise, vibration and seismic/wind control in your HVAC system.

As an extension of your design team, we add value through the time and money you save on billable hours. On average, consultants save 16 hours per project when working with Vibro-Acoustics. We work with you through all project deliverables, regardless of the number of revisions, and provide ready-to-use material for incorporation with your construction documents.

### Our Lay-in service is a step-by-step process that includes:

- **Performing a complete system analysis** – Vibro-Acoustics will analyze acoustics, aerodynamics, vibration, seismic/wind requirements and project-specific limitations (cost, space, IAQ requirements, etc.).
- **Selecting the appropriate solution** – based on the specific system requirements, Vibro-Acoustics will select the best possible solution for the project.
- **Recommending product locations** – the location of the product is often as important as the product itself. Vibro-Acoustics will specify exact product locations.
- **Solution Evaluation** – based on the system analysis and the project limitations, Vibro-Acoustics' Application Engineering team will provide an evaluation and, if needed, other recommendations on how to meet the desired design criteria.

### Our deliverables to you are:

- An acoustical system analysis printout: the calculations and steps to determine how much noise control or vibration isolation is needed.
- A complete product schedule.
- Project drawings, marked-up to illustrate the noise control locations we recommend.
- Detailed specifications – tailored to your project – in rich text format.

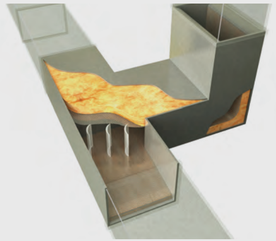
### Put us to the test with your unique situation.

We'll work with you from the cocktail napkin to the ultimate solution. All we need are:

1. Equipment sound power levels (e.g. AHUs, fans, VAV boxes).
2. Drawings or sketches of system layout (BIM and CAD drawings welcome).
3. Desired sound criteria for occupied spaces.
4. For Seismic Projects: The Seismic Design Category (page 1 of the structural drawings) and the Component Importance Factors (Ip) for the HVAC equipment (USA only).

For more information on our Lay-in service, please visit our website (vibro-acoustics.com) or send us an email (SASS@vibro-acoustics.com).

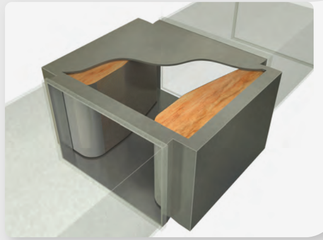
# Main Plan



### T-Elbow Silencer

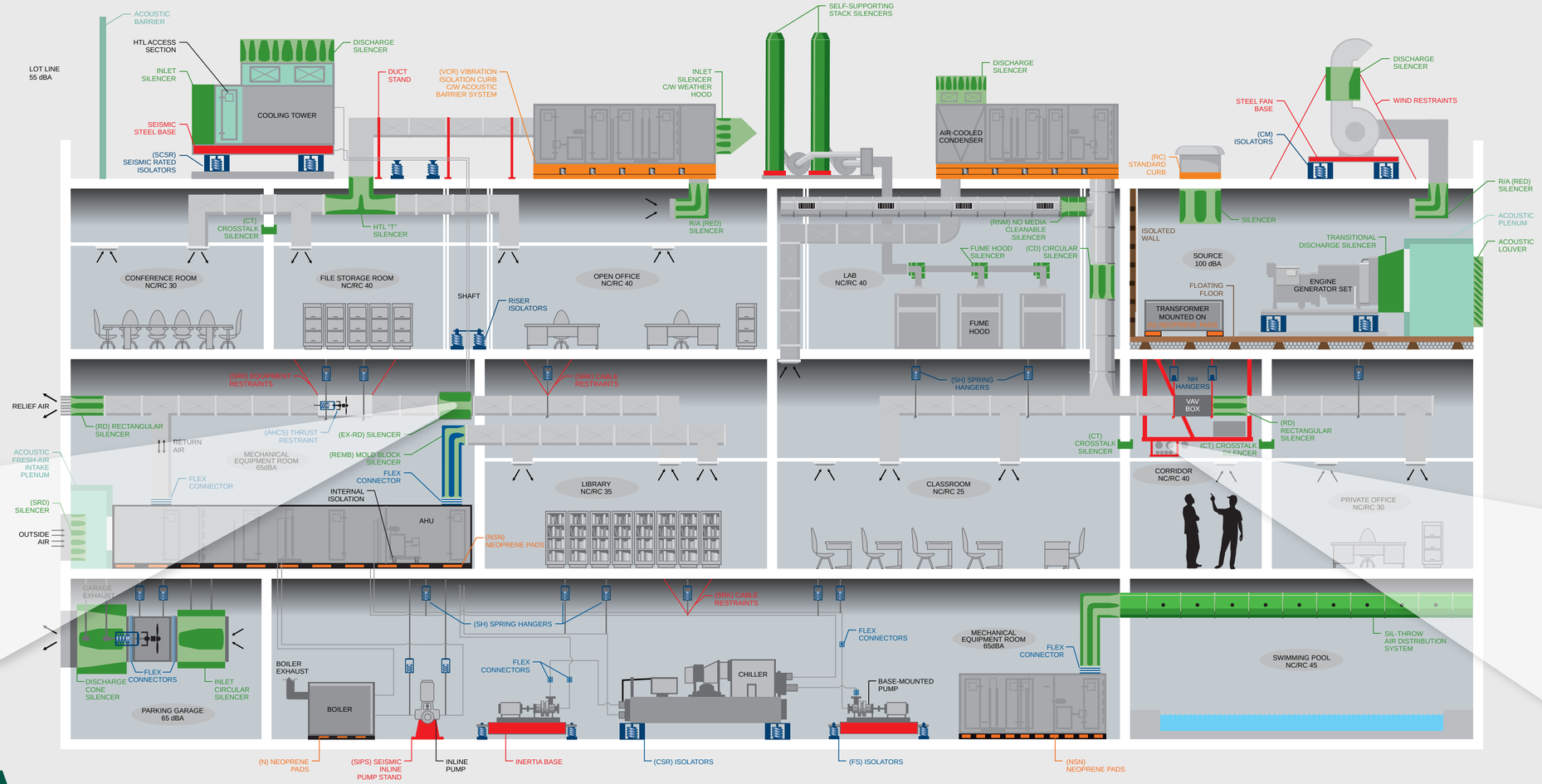
T-elbow silencers are very effective for noise control of air handlers and rooftop equipment because they enable designers to locate the silencer close to the noise source, while also branching off their duct runs at the same location.

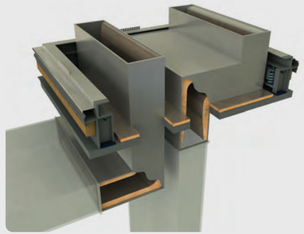
Vibro-Acoustics offers fit-the-system silencers that fit your duct design precisely, whatever it may be. Transitional silencer configurations reduce the amount of on-site fittings and labor (elbows and transitions, for example) – a great benefit to contractors and consultants.



### EX Casing Silencer

Silencers do not have to add significant pressure drop to your system. EX casing silencers are designed with the majority of the acoustic media out of the airstream and RLP silencers with all of the acoustic media out of the airstream – resulting in noise reduction with minimal added pressure drop or energy consumption. Designs can keep added pressure drop down between 0 and 0.10 inch WG.



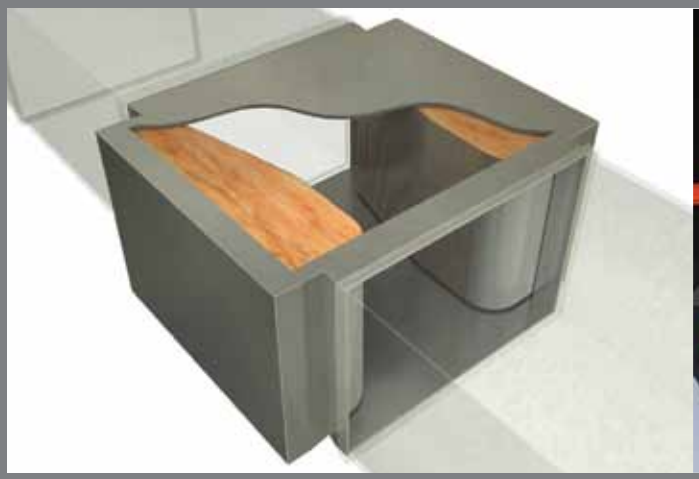
### Roof Curb

The Vibro-Acoustics VCR roof curb, with an integrated noise-control system, provides vibration isolation for rooftop units – reducing structure-borne noise and also addressing both airborne and radiated noise concerns. For code compliance, Vibro-Acoustics performs the overturn and anchorage calculations for seismic and wind loading. A detailed analysis of both the connection of the unit to curb, and curb to roof structure are undertaken. And to keep pressure drop to a minimum, aerodynamically designed acoustic splitters shape the airflow between the unit and connecting ductwork.

Isolation of individual components (fans, compressor, etc.) often fails due to short circuiting and ignorance of the actual roof structure and deflection. Vibro-Acoustics isolates the entire curb system only after taking this into account, as well as the location of the equipment/curb relative to the occupied spaces below.

### Trade Coordination

Projects often call for numerous sub-trades working in tight spaces, and since each sub-trade is required to install the seismic restraints for its own systems, the process can become complicated – often causing one trade to violate another's work. Vibro-Acoustics can reduce the risk of the entire building not complying with code by providing on-site trade coordination, as well as one sign-off letter for all trades.



**vibro-acoustics.com**
355 Apple Creek Blvd, Markham, Ontario, Canada L3R 9X7 1-800 565-8401

info@vibro-acoustics.com
Phone: (416) 291-7371
Fax: (416) 291-8049

Toronto • Nashville • Reno • New York • Houston

LIT-INTSYS-003