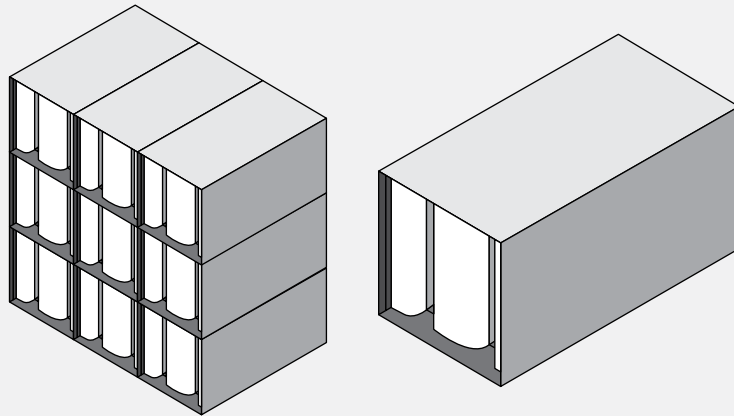


## RNM

Rectangular  
No-Media  
Straight Silencers



### Description

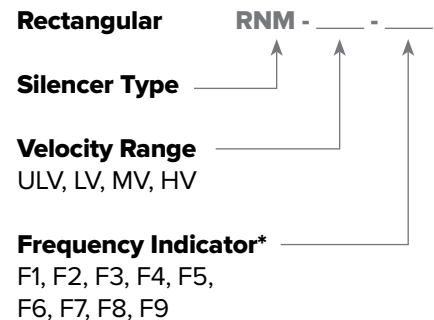
**VIBRO-ACOUSTICS' RNM** do not contain glass fiber and are void of any fill material whatsoever. The Helmholtz resonator principle is used as the primary sound-reducing mechanism. Rectangular models utilize splitters, sometimes called baffles, which incorporate expansion chambers. The chambers are covered by specially tuned perforated metal.

Splitters in rectangular models vary in quantity and thickness, and air passages also vary in width. The splitters are aerodynamically shaped to minimize pressure drop.

### Model Names

Vibro-Acoustics' silencer model names are coded to help identify their recommended application range.

\*The lower the Frequency Indicator, the better the silencer's insertion loss in the low frequency range. The higher the Frequency Indicator, the better the silencer's insertion loss in the mid to high frequency ranges.



### Applications

- > Wherever glass fiber is not acceptable in duct and air handling systems
- > When it is necessary to periodically sterilize the entire interior of the silencer
- > In laboratory fume hood systems, pharmaceutical manufacturing facilities, food processing plants, hospitals clean rooms, kitchen exhausts, etc.
- > In supply, return or exhaust ductwork
- > In fan plenums and air handling units (both supply and return)
- > On cooling towers, air-cooled chillers, etc.
- > On the receiver side of valves, dampers, terminal boxes, etc.
- > Normal recommended duct velocity range

RNM-ULV	0-500 fpm	RNM-MV	750-1250 fpm
RNM-LV	0-750 fpm	RNM-HV	1250-2000 fpm

## Features and Benefits

- > No glass fiber particles to contaminate the airstream
- > No glass fiber to host contamination within the silencer
- > Ability to sterilize the silencer
- > RNM: available in any cross-sectional dimensions to “fit-the-duct”
- > Modular unit sizes to fit ducts and air handling units without using transitions or large blank-off sections
- > Standard rectangular silencer lengths available in 36, 60, 84 and 108”; custom lengths up to 144” at no cost premium
- > Can be selected to suit the acoustic, space, or energy-cost requirements
- > Construction quality and aerodynamic design optimized to give reliable performance, best acoustics, lowest pressure drop and lowest overall cost
- > Splitters can be aligned vertically or horizontally to minimize extra pressure losses due to poor inlet or discharge flow conditions e.g. near fans, elbows, etc.

## Cautions/When Not to Use RNM Silencers

- > When 3-5 equivalent duct diameters of straight, unobstructed duct are not available on both the silencer’s inlet or discharge; consider using Elbow No-Media Silencers, Transitional Silencers or Fan Silencers
- > When velocities exceed 2000 fpm for RNM silencers, see [EX Silencers](#) or [RLP Silencers](#)
- > When break-out noise is of prime concern RNM silencers may be appropriate selections. They may require mass/stiffness added to their outer casing. Refer to [Silencer Selection Instructions](#) for proper silencer location.
- > The acoustic performance of RNM silencers is generally less than RD silencers. Longer lengths may be required to achieve the insertion loss required.

## Performance Data/Testing

See [Performance Data](#) section.

Vibro-Acoustics’ 5th generation aero-acoustic laboratory was the first laboratory to be NVLAP accredited (Lab Code 100424-0) for the ASTM E-477 silencer test code. NVLAP is administered by the U.S. Dept. of Commerce.

## Silencer Selection and Location

Vibro-Acoustics offers multiple selection methods, from our complete analysis service to Do-It-Yourself quick selections. Refer to [Silencer Selection Instructions](#) for details.

## Standard Construction Features

- > Galvanized, lockformed casing constructed to SMACNA standards
- > 1” slip connection at each end
- > Aerodynamically shaped, galvanized nose at inlet
- > Special “tuned” perforated galvanized splitters complete with perforated diffuser tail section
- > Splitters configured with internal “tuned” chambers
- > No acoustic media

## Special Construction Options

- > Heavier gauge casings and perforated metal
- > Continuously welded casings
- > Special materials (e.g. stainless steel, aluminum)
- > Flanges
- > Access doors
- > High transmission loss (HTL) casings to prevent break-out/break-in noise
- > Built in transitions
- > Removable splitters
- > Internal spray sterilization systems can be built into silencers
- > Drains to remove toxic or contaminated solutions
- > Airflow measuring devices
- > For details of above and more special options see [Special Construction Options](#).