

KINETICS®

Vibration Isolation Curb Model ESR

Heavy-duty, complete vibration isolation curb for the BIG rooftop unit jobs!

Standard Features

- Seismic and wind restraint consistent with current building codes*
- Access ports for each isolator to inspect, level, or change springs after equipment placement
- Up to 4" (102 mm) deflection, powder-coated steel springs with 50% overload capacity
- High-frequency noise isolation pads
- Environmentally inert elastomeric seal for an air and water-tight closure between the curb and isolation rail
- Supply and return duct support hardware
- Structural steel curb with wood nailer
- 21" Standard Curb Height

*Equipment geometry, attachment and anchorage may affect restraint capacity.

Options

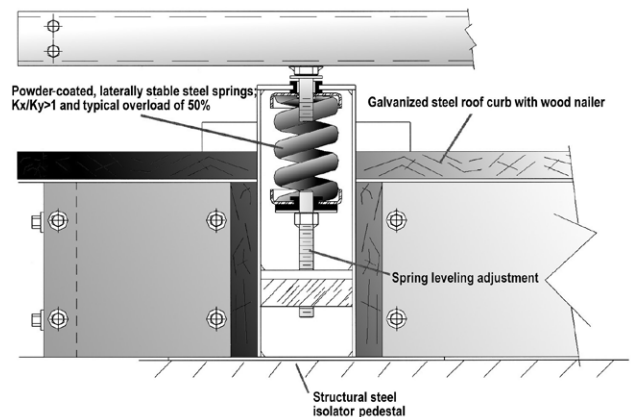
- Deflections over 4" (102 mm)
- Interface for sloped or multi-pitched roofs
- Additional height to accommodate plenums, silencers or noise-sensitive areas
- Exterior thermal insulation
- Acoustical treatment
 - 1" (25 mm) fiberglass absorber along inside perimeter of curb
 - 2" (51 mm) fiberglass absorber in bottom of curb
 - High-mass composite floating floor
- Certification of seismic and wind load engineering

Specifications

All rooftop air-handling units shall be supported by vibration isolation curbs as manufactured by Kinetics Noise Control. The vibration isolation curbs shall be complete assemblies designed to resiliently support equipment at the specified elevation and shall constitute a fully enclosed air- and weather-tight system.

The isolation curb shall consist of an upper support rail with supply and return duct supports on which the equipment and duct openings rest and a lower support curb which is attached to the roof structure, separated by free-standing, unhoused, laterally stable steel springs.

The upper support rail shall provide continuous structural support for the rooftop equipment and shall be designed to provide isolation against casing-radiated vibration in the rooftop equipment housing and structure-borne vibration from rotating and mechanical equipment in the rooftop package.



The upper support rail shall consist of a structural channel with sufficient elevation above the spring to preclude interference with the rooftop equipment and permit access to inspect the isolation system after placement of the rooftop equipment. Support of the RTU by weather seal attachment bolt heads is not permitted.

The lower support curb shall be a formed channel fabricated of heavy gauge galvanized steel with a continuous 1-1/2" x 1-1/2" (38 mm x 38 mm) nominal wood nailer attached to the isolation support pedestals. The isolation support pedestal, which includes the seismic and wind load restraints, shall be bolted or welded to the building support steel to suitably transfer seismic and wind load forces to the building structure. The lower support curb shall have a minimum elevation of 14" (356 mm) from the top of the wood nailer to the base of the curb.

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Spring components shall be (1"/25 mm) (2"/51 mm) (4"/102 mm) deflection, free-standing, unhooused, laterally stable steel springs. Springs shall have a lateral stiffness greater than 1.2 times the rated vertical stiffness and shall be designed for a typical 50% overload to solid. All springs shall have an polyester powder-coated finish and be color coded to indicate load capacity. Spring coils shall rest on minimum 0.25" (6 mm) neoprene noise pads.

Seismic and wind load restraints shall be designed to limit movement in all directions. Restraint components shall include neoprene snubbers at all contact points for energy absorption. There shall be no metal-to-metal contact.

Standard units are designed to withstand a 43 psf horizontal and 25 psf vertical wind load. Resistance to higher loads or for ratings on extended height curbs or units attached to wood or concrete will require analysis by KNC, but can in most cases be met with only minor modification.

The vibration isolation curb shall be air and weather tight using an elastomeric seal, which is attached to the upper support frame with a galvanized steel clip. The seal shall extend down past the wood nailer of the lower support assembly and flash over the roof material at the wood nailer on the lower support curb. The seal shall be Class A, as tested in accordance with approved Underwriter's Laboratories, Inc., provisions. Metal or combination metal and elastomer seals are not permitted. The seal may not be penetrated for isolator adjustment.

The isolation curb system shall be complete with cross-bracing as required as a part of the upper and lower assemblies.

Supply and return flex connector support hardware shall be supplied for installation by the contractor in the field. The supports will be clearly marked and dimensioned on the submittal and installation drawings. The support hardware shall be cut-to-length, galvanized steel channels supported and connected with stamped and punched galvanized steel duct support hangers. The support hangers shall allow the support elevation to be equal to or lower than the equipment rail

elevation. Supply air and return duct shall be flexibly attached by the contractor to prevent transmission of vibration to the building structure.

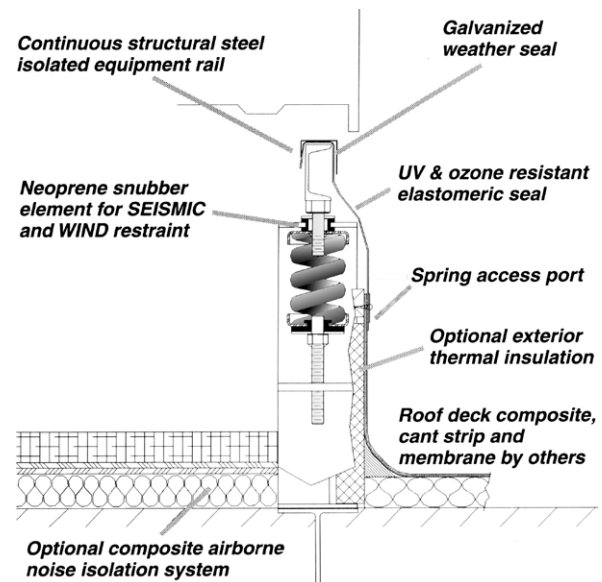
Airborne noise control packages, if required, shall be supported by the roof structure within the curb and shall have no rigid contact with the isolation curb.

The isolation curb assemblies shall be shipped to the job site with the upper support rail, lower support curb, springs and restraints completely assembled. The contractor shall be required to assemble the four corners, attach the curb to the roof structure, install cross-bracing and flex connector supports as necessary, and install and attach rooftop equipment.

Vibration isolators shall be selected by the manufacturer for each specific application to comply with deflection requirements as shown on the Vibration Isolation Schedule or as indicated on the project documents.

Optional Certification

The manufacturer shall submit certified engineering drawings and calculations stamped by a licensed Professional Engineer demonstrating the isolation curb system has been designed (for a ___mph/___km/h wind load), (for Seismic Zone ___per code), (to withstand ___g horizontal force and ___g vertical force). Roof curb shall be Model ESR as manufactured by Kinetics Noise Control, Inc.



kineticsnoise.com
sales@kineticsnoise.com
1-800-959-1229