

Kinetics Model ESR

- 1g seismic restraint & 125 mph wind restraint for most equipment
- Access ports for each isolator to inspect, level or change springs after equipment placement
- Up to 4" 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.



Specification

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 the 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, housed, 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 in x 1-1/2 in (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 in (356 mm) from the top of the wood nailer to the base of the curb.

Spring components shall be (1 in/25 mm)(2 in/51 mm)(4 in/102 mm) deflection, free-standing, laterally stable steel springs. Springs shall have a lateral stiffness greater than

ESR ISOLATION CURB DESCRIPTION AND SPECIFICATION

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1.2 times the rated vertical stiffness and shall be designed for a typical 50% overload to solid. All springs shall have an epoxy-based, powder-coated finish and be color coded to indicate load capacity. Spring coils shall rest on minimum 0.25 in (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. The isolation curb shall be designed to withstand horizontal wind loads of 125 mph (200 km/h) and seismic forces of 1g. 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.

 <p>KINETICS Noise Control</p> <p><small>DUBLIN, OHIO, USA • MISSISSAUGA, ONTARIO, CANADA</small></p>	<p>Toll Free (USA only): 800-959-1229 International: 614-889-0480 Fax: 614-889-0540 World Wide Web: www.kineticsnoise.com Email: sales@kineticsnoise.com</p>	<p>DOCUMENT: P6.1</p> 
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Kinetics Model KSCR

- Internal seismic restraint
- 100 mph wind restraint
- 1 in or 2 in deflection springs
- Supply and return flexible connector support hardware
- EPDM air- and weather-tight seal for non-ducted applications
- High profile, non-interference aluminum equipment rail
- Accessible, interchangeable springs



Specification

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 the 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 flexible connector 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 and lateral seismic and/or wind load restraints. 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 an extruded aluminum structural shape with a minimum height of 4.75 in (121 mm) above the spring to preclude interference with the rooftop equipment and permit access to inspect, level, or change the springs after placement of the rooftop equipment.

The lower support curb shall be a formed channel fabricated of heavy gauge galvanized steel with a continuous 1-1/2 in x 1-1/2 in (38 mm x 38 mm) nominal wood nailer. The base plate of the curb shall be 1 in (25 mm) wide and shall be welded, bolted or screwed to the building support steel.

The lower support curb shall have a minimum elevation of 14 in (356 mm). Spring components shall be (1 in/25 mm) (2 in/51 mm) deflection, free-standing, unhoused, laterally stable steel springs. Springs shall have a lateral stiffness greater than 1.0 times the rated vertical stiffness and shall be designed for a typical 50% overload to solid. All springs shall have an epoxy-based, powder-coated finish and be color coded to indicate load capacity. Springs shall rest on a neoprene noise pad. The spring and

KSCR ISOLATION CURB DESCRIPTION AND SPECIFICATION

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noise pad shall be captured in a retainer cap secured to the lower support curb. The lateral stabilizers shall be stainless steel spring assemblies factory-located and installed to provide seismic and/or wind load restraint. The standard system shall have a 100 mph (161 km/h) wind load restraint capacity and a minimum horizontal restraint capacity of 1,000 lbs. (455 kg) in both axes.

The weather seal shall run continuously around the perimeter of the curb and be joined in the field with one seam using a double-faced elastomeric adhesive. The weather seal shall be fastened to the wood nailer of the lower support curb using screws and an aluminum fascia strip.

Supply and return flexible 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 duct support elevation to be equal to or lower than the equipment rail elevation. Supply and return air duct shall be flexibly attached by the contractor to prevent transmission of vibration to the building structure.

The isolation curb assemblies shall be shipped to the job site with the upper support rail, lower support curb, springs, and stabilizers completely assembled. The contractor shall assemble the four corners and attach the curb to the roof structure.

The isolation curb assembly shall include a troubleshooting kit to permit the contractor to level or adjust the loading of the isolation system immediately after placement of the rooftop equipment should the actual weight and/or distribution differ from design values. 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.

KSCR ISOLATION CURB DESCRIPTION AND SPECIFICATION



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 VISCMA MEMBER

Kinetics Model KSR

Kinetics KSR perimeter isolation system is designed and engineered to mount on top of an existing fixed curb system and isolate packaged rooftop equipment from the roof structure. Designed for easy installation, minimum interference with equipment overhang, and with accessible springs, the Kinetics KSR goes well beyond internal isolation by reducing casing-radiated vibration caused by turbulent air flow as well as compressor and fan vibration. KSR rails have a positive elastomeric air and weather seal permitting the inside of the unit to be used as a return air plenum. The KSR mates with the inside of the manufacturer's curb eliminating any internal interference. The KSR also features an impressive family of options including:

- Aluminum weather seal flashing
- Seismic restraint
- Airborne noise control package
- Duct block offs

Specification

Spring components shall be (1 in/25 mm), (2 in/51 mm) deflection, free-standing, unhoused, laterally stable steel springs. Springs shall have a lateral stiffness greater than 1.0 times the rated vertical stiffness and shall be designed for 50% overload to solid.

Springs shall be color coded to indicate load capacity.

Rails shall provide continuous 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. Rail assembly shall consist of extruded aluminum top and bottom members connected by spring isolators and a continuous air- and water-tight seal. The seal shall be a beaded elastomeric material retained in a keyway along the top extrusion. The weather strip shall be sealed along the bottom with an aluminum fascia strip.

Rail assemblies shall incorporate means for attachment to the building and the supported equipment and shall incorporate additional stiffening members if necessary to assure stability. 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.



KSR ISOLATION RAIL DESCRIPTION AND SPECIFICATION

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