

# KINETICS™

## Sound and Vibration Isolation Curb Model ESSR

In the late 60's, Kinetics introduced the first spring isolation rails, which were installed between the rooftop equipment and the roof curb. These did an excellent job isolating the vibration from the rooftop equipment to the building structure; however, they did not address the problems of duct-borne noise or equipment breakout noise into the conditioned space.

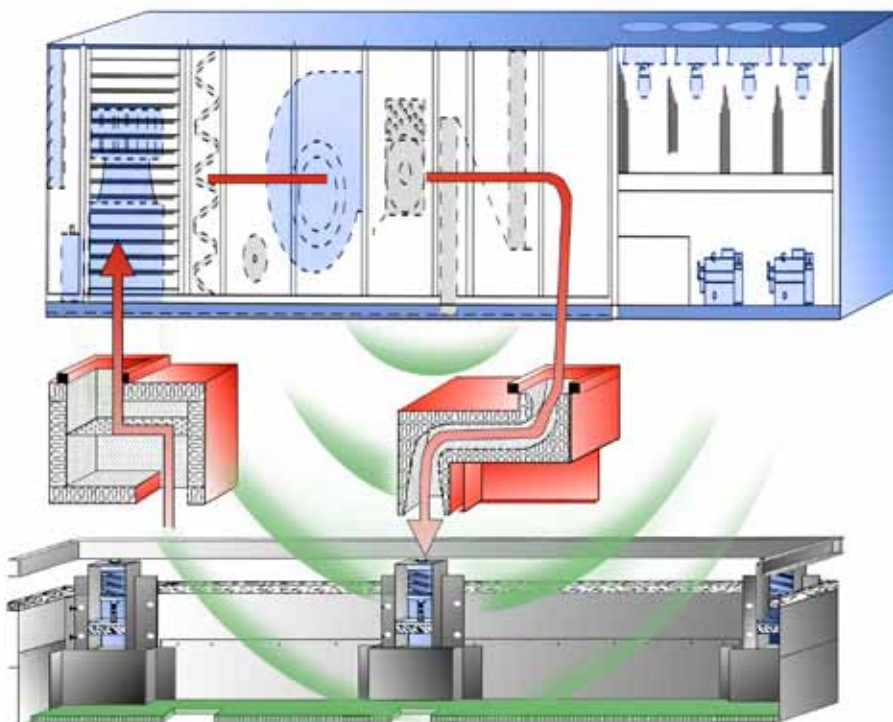
Today, Kinetics introduces the ESSR. The ESSR incorporates all the features of our ESR vibration isolation curb with our Vibron aerodynamic acoustical silencers; return air plenums and Noiseblock STL panels. This gives you a noise control system that addresses all the noise and vibration concerns of your packaged rooftop equipment: vibration from the rotating equipment and casing radiation, duct-borne

noise from supply and return fans, and breakout noise from the fans and compressors into the space below.

You tell us the NC level you want, the packaged system you want to use and some information on the building construction and we select the ESSR package designed to meet your needs. As with the ESR, the ESSR can be designed to meet all seismic and wind load code requirements. The ESSR is a modular system based on your needs. You may not need the acoustical return air plenum and the aerodynamic supply silencer - one or the other may be sufficient. Depending on the roof construction and the space usage below the packaged unit, the STL panels may not be required. We will select only the acoustical elements necessary to meet your needs.

**The Kinetics ESSR is the only isolated curb system that addresses all four noise sources associated with packaged rooftop equipment.**

Here's how -



Vibration from fans and compressors (source 1) and vibration from casing radiated noise caused by duct turbulence and the airborne noise of the fans and compressors (source 2) are controlled with Kinetics high deflection, laterally stable coil spring isolators and high frequency neoprene noise pads.

Duct-borne noise from the supply and return air fans (source 3) are controlled using an aerodynamic acoustical silencer on the supply fan and an acoustical plenum on the return air side - both with minimal pressure drop.

Breakout noise through the bottom of the rooftop unit (source 4) is controlled by the Noiseblock STL acoustical panel located in the floor of the ESSR.

## PRELIMINARY DATA

Sound Rating NC-35	Model ESSR-35-5 (Based on Carrier Model 48TJ006)	Model ESSR-35-10 (Based on Carrier Model 48TJ012)
Unit Capacity Maximum CFM	5 Tons 2,000	10 Tons 4,000
Vibration Isolation	Spring Isolators - 2" Static Deflection *	Spring Isolators - 2" Static Deflection *
Integral Supply-Air Silencer Type Duct Size Overall Dimensions (W x L x H) CL Length	Offset Elbow Silencer 20.25" x 18.88" 20.25" x 66" x 38" 102"	Offset Elbow Silencer 31.38" x 15.68" 31.38" x 76" x 40" 112"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 2,000 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 4,000 CFM
Integral Return-Air Acoustic Plenum Type Duct Size Overall Dimensions (W x L x H)	Lined Acoustic Plenum with Diffusing Element 13.5" x 14" 13.5" x 66" x 38"	Lined Acoustic Plenum with Diffusing Element 15.38" x 40" 15.38" x 76" x 40"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 2,000 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 4,000 CFM

Sound Rating NC-35	Model ESSR-35-30 (Based on Carrier Model 48DJ034)	Model ESSR-35-50 (Based on Carrier Model 48DJ054)
Unit Capacity Maximum CFM	30 Tons 10,500	50 Tons 17,500
Vibration Isolation	Spring Isolators - 2" Static Deflection *	Spring Isolators - 2" Static Deflection *
Integral Supply-Air Silencer Type Duct Size Overall Dimensions (W x L x H) CL Length	Offset Elbow Silencer 67.25" x 26.69" 67.25" x 96" x 50" 120"	Offset Elbow Silencer 67.25" x 47" 67.25" x 96" x 72" 120"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 10,500 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 17,500 CFM
Integral Return-Air Acoustic Plenum Type Duct Size Overall Dimensions (W x L x H)	Lined Acoustic Plenum with Diffusing Element 80.5" x 54" 80.5" x 120" x 50"	Lined Acoustic Plenum with Diffusing Element 80.5" x 65" 80.5" x 144" x 72"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 10,500 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 17,500 CFM

Sound Rating NC-35	Model ESSR-35-60 (Based on Carrier Model 48DJ064)	Model ESSR-35-100 (Based on Carrier Model 48DK104)
Unit Capacity Maximum CFM	60 Tons 21,000	100 Tons 35,000
Vibration Isolation	Spring Isolators - 2" Static Deflection *	Spring Isolators - 2" Static Deflection *
Integral Supply-Air Silencer Type Duct Size Overall Dimensions (W x L x H) CL Length	Offset Elbow Silencer 67.25" x 47" 67.25" x 96" x 72" 120"	Offset Elbow Silencer 69.5" x 52.63" 69.5" x 120" x 76" 144"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 10,500 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 21 34 50 Less than 0.2" at 17,500 CFM
Integral Return-Air Acoustic Plenum Type Duct Size Overall Dimensions (W x L x H)	Lined Acoustic Plenum with Diffusing Element 80.5" x 65" 80.5" x 144" x 72"	Lined Acoustic Plenum with Diffusing Element 81.5" x 52.63" 81.5" x 144" x 76"
Insertion Loss (dB) Pressure Drop (wg)	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 21,000 CFM	63 Hz 125 Hz 250 Hz 500 Hz 13 16 18 18 Less than 0.1" at 35,000 CFM

\*Deflection may vary dependent on building structure and deck span.



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Kinetics Noise Control, Inc. is continually upgrading the quality of our products. We reserve the right to make changes to this and all products without notice.

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