

Noise Control

Commercial, Industrial, and Environmental
Products and Solutions



www.kineticsnoise.com

Represented by:



**CAPITAL ENERGY
EQUIPMENT, INC.**

teL (703) 437-8161

info@capitalenergyequipment.com

www.capitalenergyequipment.com

Commercial Duct Silencers

Kinetics Noise Control offers the design and engineering assistance to integrate our duct silencers into a system solution. As a result you may choose from a selection of standard or custom engineered duct silencers that will satisfy the requirements of the application.

Integration of noise control measures using silencers requires careful consideration of space constraints, fan selection and aerodynamic pressure losses.

Applications

- Fan Inlet and Discharge
- RTU/AHR/Rooftop Curbs/Air Cooled Chillers
- Cooling Towers
- Generator Room Ventilation
- HVAC Duct Systems for Commercial, Institutional, Government and Industrial Buildings

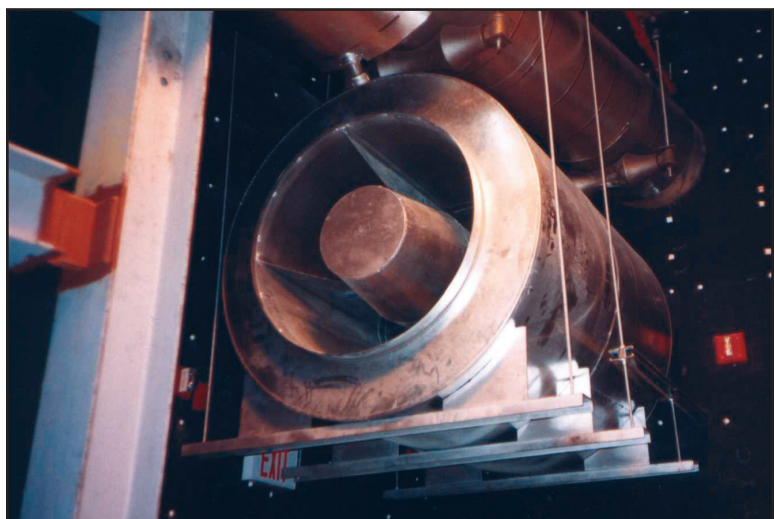
Types: (Rectangular and Circular)

- Dissipative (Fill), Elbow and Straight
- Reactive (No-Fill), Elbow and Straight
- Cross-Talk
- Custom Designed
- Axial Cone
- Transitional
- Extended Body

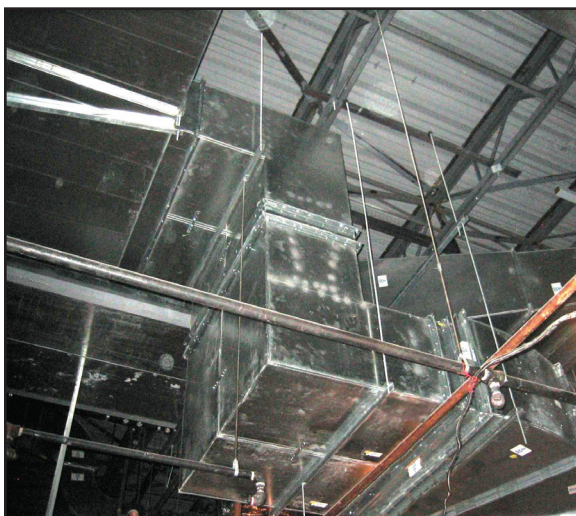
All Kinetics silencers are backed by independent testing in a NVLAP accredited laboratory in accordance with ASTM E477.



Rectangular Duct Silencers - KCRS-F/3



Return Air Circular Duct Silencer - KCCS-F-B2



Z-Shaped "Offset" Duct Silencer



Generator Room Intake Silencer Bank

Web-Based Silencer Selection and Acoustical Duct System Analysis Program

Kinetics Noise Control, Inc. offers you, at no cost, our one-of-a-kind, Web-based, silencer selection program. The program incorporates the most up-to-date, design analysis algorithms presented by ASHRAE. It dramatically reduces your engineering time, while designing quiet duct systems.

The program provides you with a complete, eight-octave band, acoustical analysis. It takes into account natural attenuation of duct and fittings, sound power splits, end reflection, insertion loss of insulated duct and fittings, system component generated noise and critical space/room attenuation. It allows entry of fan sound power level data for any manufacturer's equipment. It is a true, "model-all" program. The program produces a complete acoustical report displaying whether your design meets the required critical space sound levels. If not, the program will automatically choose a Kinetics silencer based on the height, width, length and pressure loss restrictions. The program contains our complete line of rectangular, round, dissipative, reactive, straight and elbow silencers.

KINETICS® Silencers Online

Welcome Guest User

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Online Silencers

Kinetics Silencers Online

- Rectangular and Elbow Silencer Selection
- Circular Silencer Selection
- Louver Selection
- Submittals and Schedules
- HVAC Acoustic Analysis - End and Breakout Noise
- Ordering
- Production Release

Web-based Silencer Selection & Duct System Analysis Software

Kinetics Noise Control, Inc. can save you time and money by working with you to design economically quiet duct systems. We do this by offering you, at no cost, access to our one-of-a-kind on-line silencer database, selection and duct analysis program. The program incorporates the most up-to-date design analysis algorithms recognized by ASHRAE. It dramatically reduces your engineering time, while designing quiet duct systems.

The program provides you with a complete eight-octave band acoustical analysis. It takes into account natural attenuation of duct and fittings, sound power splits, end reflection, insertion loss of insulated duct and fittings and the critical space/room attenuation. It allows entry of any manufacturer's sound power level data as well as any manufacturer's equipment sound level used in the system. It is a true, model-all program. The program produces a report that displays whether or not your design meets your required noise level within the critical space. If the sound levels are not met, the program will automatically choose a duct silencer for you based on your allowable height, width, and length and pressure loss. A final analysis report is produced for you to place in your project file for future reference.

The program has been developed with you in mind. The features and benefits of this program for Acoustical Consultants, Mechanical Engineers and System Designers are:

Silencer Schedule

KNC Commercial Schedule																	
Project Schedule				SILENCER SCHEDULE DETAILS													
Project Name		Customer		Project Number		Project Date		Units									
Duct System 1		Duct System 1		1410385		10/13/2014											
Silencer Info		Performance Data		Total Size (in)		Silencer Dynamic Insertion Loss (dB)											
Tag/Kinetics Model	Qty	Fan or Area Served	Casing Thickness	Flow (cfm)	PD (in wg)	Velocity (fpm)	W	H	L	63	125	250	500	1K	2K	4K	8K
SA-1 (Rectangular)	1	AHU-1	22 Gauge	62000	0.19	969	128	72	60	3	9	21	32	26	14	8	
21.33KCRS-F/2 - 60 x 128 x 72																	
SA-2 (Elbow)	1	AHU-2	22 Gauge	11000	0.22	971	68	24	86	13	19	29	39	45	20	26	
34KCS-F/2 - 66 x 68 x 24-6/12																	
SA-3 (Circular)	1	AHU-3	16 Gauge	15000	0.11	1906	038	044	76	6	11	22	33	44	24	13	10
38-KCCS-F-4-82-76																	

Project Specific Silencer Submittals

Silencer Submittal Info		Printed on 10/13/2014																																							
Project Details																																									
Project Number	1410385	Project Name	Duct System 1																																						
Project Date	October 13, 2014	Customer	Duct System 1																																						
Revision		Revision																																							
Revision Date		Revision Date																																							
Silencer Dimension (in)		Configuration																																							
Tag	SA-1	Configuration	Rectangular																																						
Quantity	1	Face Velocity (fpm)	969																																						
System	AHU-1	Flow Volume (cfm)	62,000																																						
Width	128	Pressure drop (in wg)	0.19																																						
Height	72	Silencer Module Dimension (in)																																							
Length	60	Number of Pieces	6																																						
Model	21.33KCRS-F/2 - 60 x 128 x 72	M	42.625																																						
RS Type	2	N	36																																						
Unit Size	21.313	L	60																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Dynamic Insertion Loss</th> <th>Airflow Generated Noise</th> </tr> <tr> <th>Hz</th> <th>dB</th> <th>Hz</th> <th>dB</th> </tr> </thead> <tbody> <tr><td>63</td><td>3</td><td>63</td><td>71</td></tr> <tr><td>125</td><td>9</td><td>125</td><td>66</td></tr> <tr><td>250</td><td>21</td><td>250</td><td>59</td></tr> <tr><td>500</td><td>32</td><td>500</td><td>57</td></tr> <tr><td>1000</td><td>26</td><td>1000</td><td>58</td></tr> <tr><td>2000</td><td>28</td><td>2000</td><td>59</td></tr> <tr><td>4000</td><td>14</td><td>4000</td><td>57</td></tr> <tr><td>8000</td><td>8</td><td>8000</td><td>55</td></tr> </tbody> </table>		Dynamic Insertion Loss	Airflow Generated Noise	Hz	dB	Hz	dB	63	3	63	71	125	9	125	66	250	21	250	59	500	32	500	57	1000	26	1000	58	2000	28	2000	59	4000	14	4000	57	8000	8	8000	55		
Dynamic Insertion Loss	Airflow Generated Noise																																								
Hz	dB	Hz	dB																																						
63	3	63	71																																						
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Notes																																									
Silencer Construction Options																																									
Casing Thickness	22 Gauge																																								
Perforated Lining Thickness	22 Gauge																																								
Material	Galvanized Steel																																								
Acoustic Media	Fiberglass (standard)																																								
Media Covering	None																																								
Inlet Connection	2" Slip Connection (Std)																																								
Outlet Connection	2" Slip Connection (Std)																																								

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Revision Date		Revision Date																																							
Silencer Dimension (in)		Configuration																																							
Tag	SA-2	Configuration	Elbow																																						
Quantity	1	Face Velocity (fpm)	971																																						
System	AHU-2	Flow Volume (cfm)	11,000																																						
Width	68	Pressure drop (in wg)	0.22																																						
Height	24	Inlet Leg L1	6																																						
Length	86	Outlet Leg L2	12																																						
Model	34KCS-F/3 - 66 x 68 x 24-6/12	Total Weight (lb)	345																																						
RS Type	3	Silencer Module Dimension (in)																																							
Unit Size	34	W	H	CL	L1	L2	Weight(lb)	Qty																																	
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Revision		Revision																																							
Revision Date		Revision Date																																							
Silencer Dimension (in)		Configuration																																							
Tag	SA-3	Configuration	Circular																																						
Quantity	1	Face Velocity (fpm)	1,906																																						
System	AHU-3	Flow Volume (cfm)	15,000																																						
Diameter D1	38	Pressure drop (in wg)	0.11																																						
Length	76	Silencer Module Dimension (in)																																							
Model	38-KCCS-F-4-82-76	Number of Pieces	1																																						
Weight (lbs)	1375	Diameter D1	38																																						
Circle Type	4	Diameter D2	46																																						
Bullet Code	2	Piece L	76																																						
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Casing Thickness	16 Gauge																																								
Perforated Lining Thickness	22 Gauge																																								
Material	Galvanized Steel																																								
Acoustic Media	Fiberglass (standard)																																								
Media Covering	None																																								
Inlet Connection	3" Slip Connection (Std)																																								
Outlet Connection	3" Slip Connection (Std)																																								
Lifting Type	None																																								

Pressurized Plenums & Equipment Casings

Pressurized Plenums

The control of noise in modern buildings due to air-conditioning is a normal procedure in most projects. Kinetics designs and manufactures a complete line of double-wall, pressurized plenum enclosures for heating, ventilating and air-conditioning systems. Designed to be assembled in the field, our panel enclosures provide thermal and optimum noise control through sound absorption and sound transmission loss.

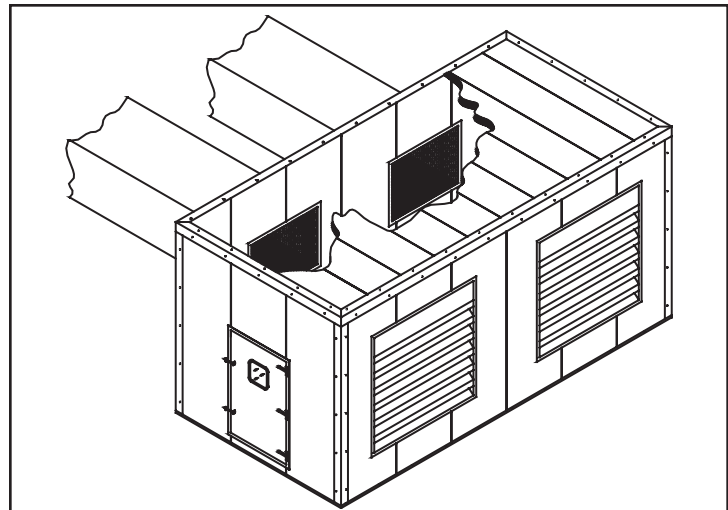
Applications

- Built-up Air Handling Units
- Panel Duct Systems
- Outside and Exhaust Air Plenums
- Supply and Return Air Handling Systems

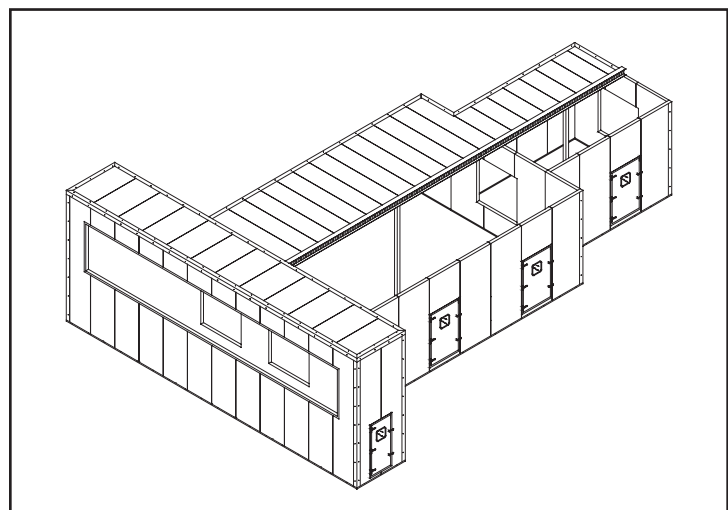
Products Overview

- 2-, 4-, 6-inch thick
- 18/16 Gage Solid / 22 Gage Perforated Skins
- Galvanized/Galvanneal/Stainless/Aluminum
- Tongue & Groove Panel Connections
- Access Doors with Airtight Seals
- Double-Glazed Wire Reinforced Door Windows
- Removable Panel Sections
- Factory Located Duct Penetrations
- Plenums are Structurally Designed Based on the Internal Positive or Negative Operating Static Pressure with a Maximum L/240 Deflection
- AutoCAD Submittal and Piece-Marked Installation Drawings

KINETICS Noise Control offers complete design and engineering assistance including layout, as well as, providing acoustical and structural requirements.



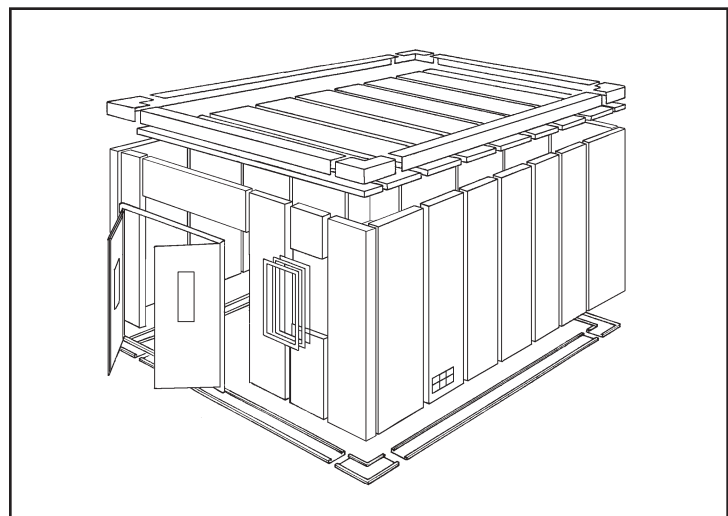
Air Intake Plenum with Acoustic Louvers



Built-up Air Handling Unit Casing



AHU Plenum Interior



Control Room Equipment Casing

Industrial Ventilation Silencers



Generator Enclosure Ventilation Silencers



Cleanable Baffle Silencer



Cooling Tower Inlet and Discharge Silencers

Applications

- Fan Inlet and Discharge
- Cooling Towers
- Stacks, Blow-offs, Vents
- Equipment/Process Enclosure Ventilation
- Chillers
- Dust Collectors
- Generators

Types: (Rectangular and Circular)

- Dissipative (Fill), Elbow and Straight
- Reactive (No-Fill), Elbow and Straight
- Custom Designs as Required
- Industrial Grade Construction (Materials, Gages)
- Transitional
- Static Regain Designs



Roof Top Factory Exhaust Silencer



Exhaust Air Silencer

NOISEBLOCK™ Enclosures and Buildings

KINETICS® Acoustical Enclosures are designed and manufactured using our standard **NOISEBLOCK™** type “STL & HTL”, tongue and groove panels. The panels are fabricated of solid steel outer skin, and solid or perforated steel inner skin. Panels are stiffened with pre-formed internal steel channels. Acoustic grade fill is packed under compression. The enclosures are available with doors, access panels, removable panels, windows, and ventilation packages. Materials of construction include: galvanized steel, galvanized steel, stainless steel, or aluminum.

Claims for hearing damage and safety requirements make a noise reduction program essential for many industries. In the past, many manufacturing facilities were regulated by a government agency such as OSHA, but today insurance companies who seek to keep claims for hearing damage to a minimum for the facilities they insure drive the vast majority of noise regulation.

Kinetics offers complete design and engineering assistance including layout as well as providing acoustical, structural and ventilation requirements.

Applications

- Compressors and Pumps
- Constant Power Generator Sets
- Grinding, Pulverizer, Chipper Processes
- Punch Presses
- Vacuum Pump and Positive Displacement Blower Systems
- Outdoor Mechanical Equipment
- Paint Booths
- In-Plant Offices / Control Rooms
- Process Equipment
- Oil and Gas Midstream Compressors
- Extrusion Processes
- Flame Spray Booths



Control Room and Testing Enclosures



Multiple Generator Enclosure



Generator and Cogen Enclosure



Skid Mounted Equipment

Systems for Equipment and Process



Dual Midstream Compressor Building

Accessories

- Acoustical Doors are equipped with heavy-duty hinges, panic/ passage hardware and seals to prevent noise leakage.
- Windows are double or single glazed, 1/4 in thick, laminated safety glass or wire reinforced including framing and sealing.
- Removable Panels for constant or intermittent access to equipment.
- Ventilation Systems include intake and exhaust silencers as well as supply or exhaust fans to meet the individual project's airflow requirements.
- Design & Engineering assistance including layout as well as determining acoustical, structural and ventilation requirements are included.
- AutoCAD submittal and piece-marked installation drawings are included.



In-Plant Equipment Building



Air Compressor Enclosure

Industrial Fan Enclosure



Equipment Enclosure



Midstream Compressor Buildings

NOISEBLOCK™ Barrier Wall Systems

for Utilities, Rooftop Equipment, Oil and Gas Operations, and Environmental Noise Compliance

The control of noise in everyday life is very important. Unwanted noise can cause stress related illnesses and severe noise can cause hearing damage. To meet these requirements and to help solve many noise problems, Kinetics manufactures a complete line of acoustical barrier panels called **NOISEBLOCK™ Barrier Panels**. These panels can be quickly and easily installed to provide complete or partial wall systems. The panels are designed to provide optimum noise control through sound absorption and sound transmission loss.

Applications

- Utilities
- Rooftop / On-Grade Mechanical Equipment
- Equipment Yards
- Industrial Processes and Machinery
- Oil and Gas Midstream Compression/Operations



Chiller Barrier Wall System, Before (right), After (above)



Utilities Barrier Wall



Roof Top Equipment Barrier



Four Sided Barrier Wall System



Chiller Barrier Wall



NOISEBLOCK™ Barrier Wall Midstream Compressor Station



Roof Top Barrier Wall



Roof Top Chiller Barrier Wall



Cooling Tower Barrier Wall System

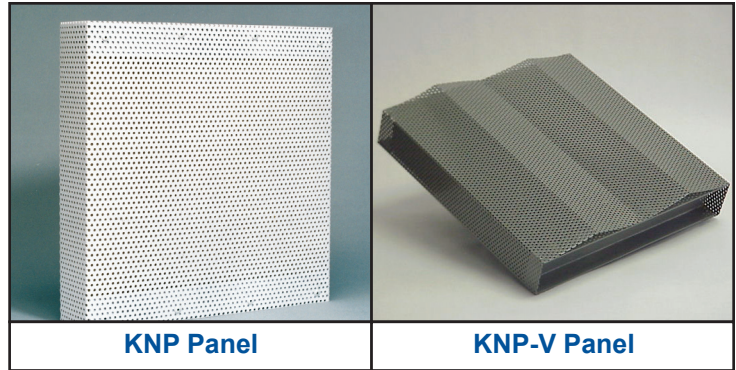
Wall and Ceiling Panel Sound Absorbers

KINETICS® KNP Panel Absorbers are functional durable and aesthetically pleasing perforated panels which are used to control background and reverberant noise. Although primarily intended as an absorber, the panels will act as a barrier when a solid sheet metal back is added. KNP Panels are also useful as additions to existing barriers to reduce reverberation time and to lower reflected sound levels.

KNP Panels are excellent sound absorbers over a wide frequency range. Their acoustic properties combined with their appearance and rugged durability make them a perfect choice for test chambers, class rooms, factories, auditoriums, mechanical equipment rooms, gymnasiums, theatres, garages, hallways and other spaces where reverberant noise is a problem. KNP panels are suitable for outdoor use and are ideal for installation over existing barrier walls.

KNP panels can be attached to walls, ceilings or other surfaces and can be located in a manner to achieve a pleasing appearance.

They are available with optional rear backing to increase their transmission loss and be used as a barrier. In addition, KNP Panels can be faced with perforated material on both sides and used as hanging absorptive baffles.



Fixed Blade Acoustic Louvers

Kinetics Fixed Blade Acoustic Louvers are economical, effective and attractive. They are designed for maximum attenuation when space is limited. They are aesthetically pleasing and available in various material types.

Applications

- Building Vents
- Generator Room Vents
- Equipment Barrier Wall Systems
- Acoustical Enclosure Ventilation
- Commercial and Industrial Duct Systems

Accessories

- Flanges
- Bird Screen
- Powder-Coat Finish
- Structural Design of Large Louver Banks

Acoustic Louvers are used as part of the intake/exhaust air system of buildings, structures, or equipment to help reduce noise produced by the system equipment. They have a relatively large surface area which compensates for their lack of depth.



Central Energy Plant Louvers



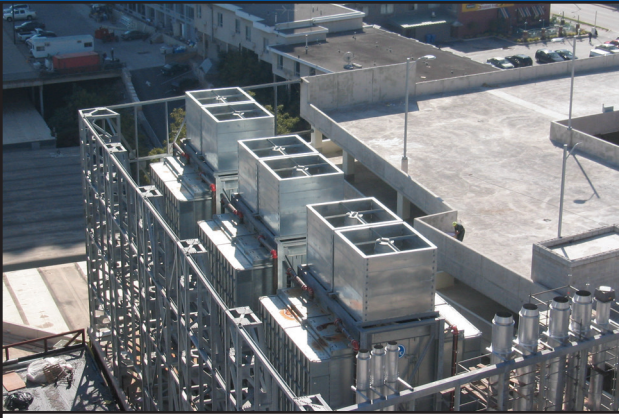
Data Center Backup Generators Room Louvers



Rooftop Louvered Equipment Barrier



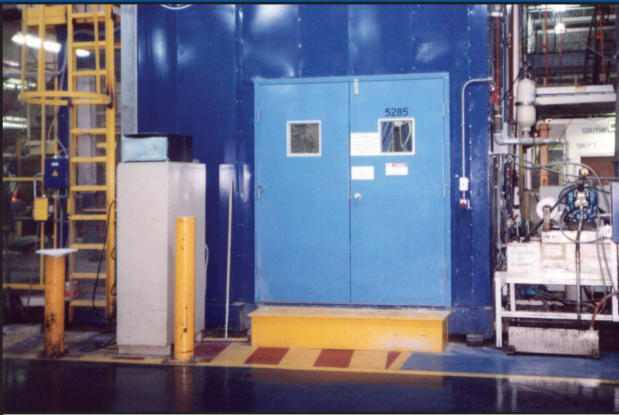
Cooling Tower Yard Louvers



Custom Cooling Tower Ventilation Silencers



Outdoor Barrier Wall



In-Plant Equipment Enclosure



Equipment Yard Barrier Wall

Kinetics Noise Control has been engineering and manufacturing vibration isolation and noise control products and systems for over 56 years. We pioneered the use of pre-compressed molded fiberglass for vibration isolation. Throughout the years, we have developed and refined a complete line of noise and vibration control products. In addition to the airborne noise control products illustrated in this brochure, we also offer complete designed pipe riser isolation systems, seismic restraint, engineered floating floor systems for control of airborne and impact noise, and a complete selection of barriers, absorbers and damping materials. Kinetics offers the engineering expertise, laboratory, and field-testing capabilities to work with you and your acoustical consultant to develop a solution to your specific noise control problem by applying independently tested Kinetics manufactured products.



kineticsnoise.com
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1-800-959-1229