

## Noise Control Solutions with Industrial/Environmental Acoustic Enclosure Systems



### ENCLOSURES FOR:

- Fans
- Blowers
- Pumps
- Generator Sets
- Test Chambers
- Grinders
- Dryers
- Processes
- Compressors
- Saws
- Quench Operations
- Conveyors
- Chillers
- Shakers
- Vibratory Feeders
- Condensers
- Process Equipment
- Presses
- Water Jet Cutters
- Granulators
- Shredders
- Parts Washers
- Swedgers
- Milling Machines



# Noiseblock Acoustical Panel Enclosure Exploded View

## Application

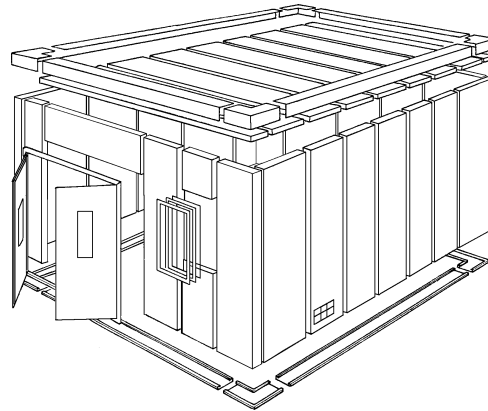
The control of noise in industry is very important. There have been sharp increases in worker compensation claims for hearing damage, and legislative, safety and economic requirements make a noise reduction program essential for many industries.

To meet these requirements and to help solve many in-plant noise problems, Kinetics Noise Control manufactures a complete line of acoustical panels which can be quickly and easily assembled to provide complete or partial enclosures for noisy equipment or to provide a quiet office in a manufacturing area. These panels are designed to provide optimum noise control through sound absorption and sound transmission loss. Enclosures can be sized to meet your requirements.

Standard Kinetics Noiseblock STL panels are fabricated with outer skins of 18 gauge galvanized steel and inner skins of 22 gauge perforated galvanized steel. Panels are stiffened with 18 gauge steel channels. Sound absorption is provided by 2.5 to 6 pcf fiber glass or mineral wool depending on the application. Standard panels are nominally 4" thick, but optional 2" and 6" panels are available to meet special requirements. 2" panels are rated at STC 37 and NRC .95, 4" panels are rated at STC 40 and NRC 1.00.

Kinetics Noiseblock HTL panels are designed for applications where more transmission loss is required. The HTL panels are fabricated of a 16 gauge outer skin, a 22 gauge perforated inner skin, 18 gauge stiffener channels and a high mass septum. The 4" thick HTL panels have an STC of 48 and a NRC of 1.00.

Enclosures can be designed with doors, windows, access panels and removable panels. Doors are equipped with heavy-duty hardware and with seals to prevent noise leakage. Window panels are framed and sealed units utilizing 1/4" safety and/or wire reinforced glass. If constant access to the equipment is needed, removable panels can be incorporated in the enclosure design.



For specialized requirements, Kinetics manufactures panels of various thicknesses or single-skin panels fabricated from 18 gauge steel and faced with acoustical foam.

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

## HVAC Installations

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 pressure enclosures for Heating, Ventilating and Air-Conditioning installations. Our panel enclosures are designed to be erected in the field. They are designed to provide thermal and optimum noise control through sound absorption and sound transmission loss.

## Industrial Installations

Claims for hearing damage, safety and economic 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 the vast majority of noise regulation is driven by insurance companies who seek to keep claims for hearing damage to a minimum for the facilities they insure.

Octave Band Number	2	3	4	5	6	7	NRC
Center Frequency (Hz)	125	250	500	1000	2000	4000	-----
Absorption Coefficients							
NOISEBLOCK (STL) - 2"	0.15	0.66	1.07	1.06	0.97	0.86	0.95
NOISEBLOCK (STL) - 4"	0.60	1.13	1.12	1.09	1.03	0.91	1.00

Octave Band Number	2	3	4	5	6	7	STC
Center Frequency (Hz)	125	250	500	1000	2000	4000	-----
Transmission Loss							
NOISEBLOCK (STL) - 2"	17	23	34	47	55	57	37
NOISEBLOCK (STL) - 4"	21	28	39	48	56	58	40

Octave Band Number	2	3	4	5	6	7	NRC
Center Frequency (Hz)	125	250	500	1000	2000	4000	-----
Absorption Coefficients							
NOISEBLOCK (HTL) - 4"	0.60	1.13	1.12	1.09	1.03	0.91	1.00

Octave Band Number	2	3	4	5	6	7	STC
Center Frequency (Hz)	125	250	500	1000	2000	4000	-----
Transmission Loss							
NOISEBLOCK (HTL) - 4"	27	34	48	61	66	70	48

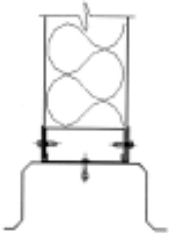
When tested in accordance with ASTM E90-70 standard or a subsequent version of this standard, the panel assembly shall have minimum airborne sound transmission loss as follows:

Doors, windows, electrical systems, ventilating systems, accessory components, etc., shall be provided in accordance with drawings.

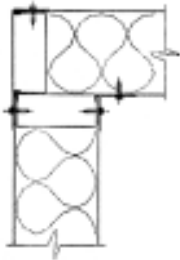
# Kinetics Noiseblock Panel System Section Views



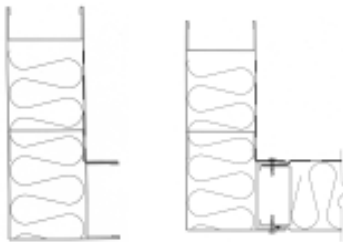
1- Tongue and groove connection



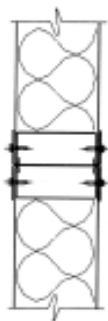
2- Curb connection



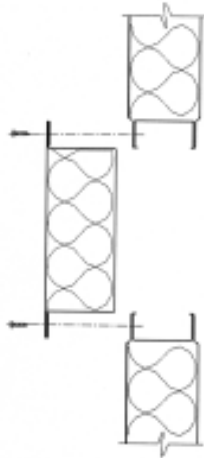
3- Right angled corner



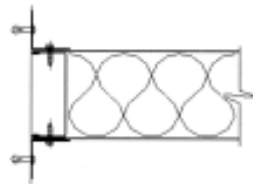
4- Corner panel



5- Vertical panel connections



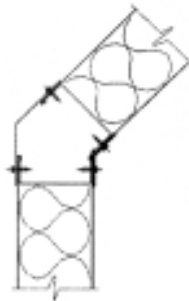
6- Removable panel



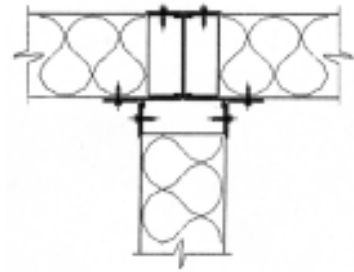
7- Connection to a wall or partition



8- Window



9- Angled corner



10- Tee connection

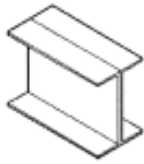
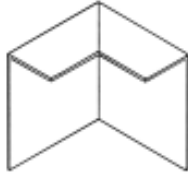
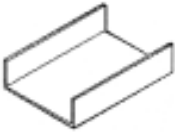
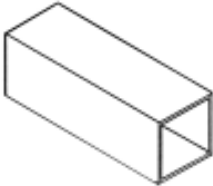



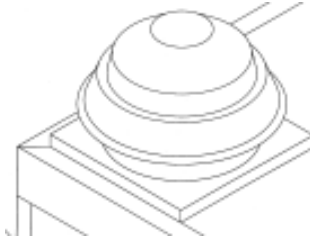


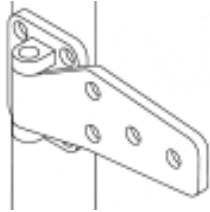


11- Opening through a panel

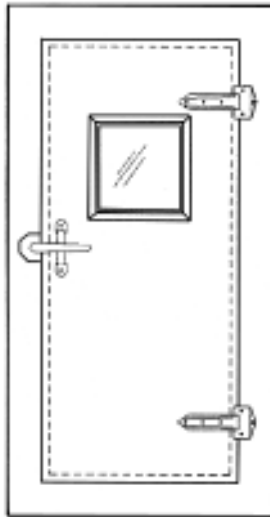


12- Non-sequential removable panel

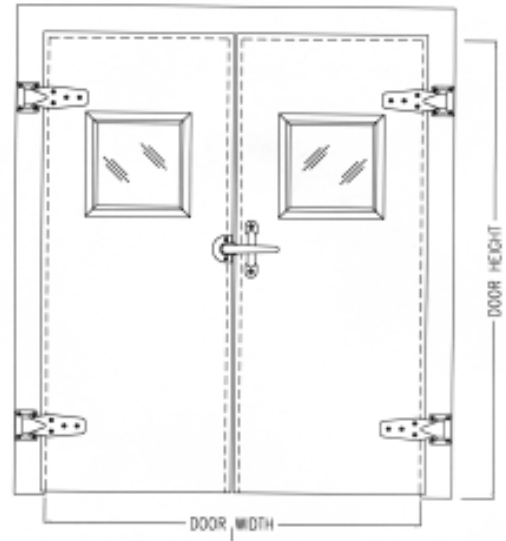
# Trim and Accessories for Kinetics Noiseblock Enclosures

 <p>A. Panel Connector</p>	 <p>F. Outside Corner</p>	
 <p>B. Base Channel</p>	 <p>G. HSS Structural Tube</p>	
 <p>C. Inside Trim</p>	 <p>H. Base Plate</p>	
 <p>D. Outside Trim</p>	 <p>I. Ventilation Fan</p>	
 <p>E. Drip Shield</p>	 <p>J. Door Latch</p>	 <p>K. Door Hinge</p>

# Doors and Windows for Kinetics Noiseblock Enclosures



Optional window shown



## Single Standard Doors

Standard Sizes W x H (in)	Door Opening
20 x 60	Left Right
20 x 72	
24 x 24	window options w x h (in)
24 x 60	
24 x 72	
24 x 84	
30 x 60	
30 x 72	
30 x 84	
36 x 84	

## Standard Double Glazed Windows

W x H (in)
12 x 12
12 x 24
24 x 12
24 x 24
18 x 24

## Double Standard Doors

Standard Sizes W x H (in)	Door Opening
60 x 84 or 96	window options w x h (in)
72 x 84 or 96	
84 x 84 or 96	
96 x 84 or 96	
	12 x 12
	12 x 24
	24 x 24

Custom size doors, windows and hardware are available upon request.

## OTHER DOOR TYPES

- HIGH STC SINGLE AND DOUBLE DOORS
  - CAM-LIFT HINGES
  - MAGNETIC SEALS
- HORIZONTAL & VERTICAL SLIDING DOORS

# Specifications for Type STL Acoustical Panel Enclosure

## 1.0 General

Acoustical Panel Enclosures shall be insulated double-wall construction and shall be provided as indicated on drawings by a recognized manufacturer with published standards of construction and technical performance. The manufacturer shall have produced a standard factory-fabricated panel system and components for at least 10 years. Performance of the fabricated and installed system shall conform to all specifications listed herein.

## 2.0 Materials

### 2.1 Acoustical Metal Panels

- A. All panels and their components shall be pre-fabricated, sectional, all metal-clad, modular and designed for easy and accurate field assembly. The panels and components shall not be susceptible to damage due to extended exposure to vibration, air temperature or humidity with the passage of time.

#### B. Panel Construction

1. All panels shall be (2)/(4)/(6) inches thick, as noted on drawings, with a solid galvanized steel Type G90 exterior shell and a perforated/solid galvanized steel type G90 interior shell. The panels shall be connected together by means of a tongue and groove connection and held together rigidly by the use of self-drilling sheet metal screws.
2. The panel shell framing members and internal reinforcements shall be welded, screwed and/or riveted together to form a metal-sheathed panel of sufficient strength for maximum operating loads specified in the structural performance section of these specifications.
3. The solid exterior outer galvanized steel shell thickness shall be 18 ga. minimum and the interior perforated galvanized steel shell shall be 22-ga. minimum thick.
4. Where perforated materials are indicated, all perforations shall be 3/32" dia. holes on 3/16" staggered centers and shall result in an open area of no less than 23 percent.
5. All panel internal and external reinforcing members shall be minimum 18 ga. galvanized steel.
6. Each panel shall be filled with sound-absorbing materials that are inert, mildew-resistant, verminproof, and incombustible.

#### C. Panel Components and Installation

1. All accessory trim items shall be of 18 ga. minimum galvanized steel and shall be furnished in factory-standard lengths to be field cut to specified dimensions. Location and quantity of sheet metal screws and trim requirements shall be in accordance with the manufacturer's installation details.
2. Base channel shall be installed on a level and structurally sound surface.
3. All external panel connectors, trim items, accessories, base channel/panel interfaces/base channel/floor interfaces, and other sections as noted on the drawings shall be sealed with an acoustical sealant that shall not harden and prevent disassembly in the future.

#### D. Structural Performance

1. Any special external panel loading conditions including wind, snow and equipment shall be provided for as per specifications.
2. Under the indicated loading conditions, the entire enclosure system shall be self-supporting and/or will be supported as per the specifications. The installer shall furnish and assemble all structural members in strict accordance with drawings and manufacturer's installation details.
3. Under the above loading conditions, the assembled acoustical structure shall not exhibit any panel joint deflection in excess of  $L/240$ , where L is the unsupported span length of any panel section in the erected structure.

#### E. Acoustical Performance

The manufacturer shall provide certified testing data indicating sound absorption and transmission loss characteristics of the panel assembly.

#### F. Accessory Items

Doors, windows, electrical systems, ventilating systems, accessory components, etc., shall be provided in accordance with drawings.

#### G. Manufacturer

All materials shall be provided by Kinetics Noise Control, Inc. - Vibron Products Group



# Specifications for Type HTL Acoustical Panel Enclosure

## 1.0 General

Panel enclosure systems shall be insulated double-wall construction and shall be provided as indicated on drawings. Panels, components and accessories shall be provided by a recognized manufacturer with published standards of construction and technical performance. The manufacturer shall have produced a standard factory-fabricated panel system and components for at least 10 years. Performance of the fabricated and installed system shall conform to all specifications listed herein.

## 2.0 Materials

### 2.1 Acoustical Metal Panels

**A.** All panels and their components shall be pre-fabricated, sectional, all-metal clad, modular and designed for easy and accurate field assembly. The panels and components shall not be susceptible to damage due to extended exposure to vibration, air temperature or humidity with the passage of time.

### **B. Panel Construction**

1. All panels shall be (4) / (6) inches thick, as noted on drawings, with a solid galvanized steel type G90 exterior shell, a septum skin and a perforated/solid galvanized steel type G90 interior shell. The panels shall be connected together by means of a tongue and groove connection and held together rigidly by the use of self-drilling sheet metal screws, to be installed on maximum 18" centers on the inside and outside of the enclosure..
2. The panel shells, framing members, and internal reinforcements shall be welded and/or riveted together to form a metal-sheathed panel of sufficient strength for maximum operating loads specified in the structural performance section of these specifications.
3. The outer galvanized steel shell thickness shall be 16 ga. minimum and the inner galvanized steel shell shall be 22-ga. minimum thick.
4. Where perforated materials are indicated, all perforations shall be 3/32" dia. holes on 3/16" staggered centers and shall result in an open area of no less than 23 percent.
5. All panel internal and external reinforcing members shall be minimum 18 ga. galvanized steel.
6. Each panel shall be filled with sound-retardant and absorbing materials that are inert, mildew-resistant, verminproof and incombustible.
7. Where indicated on drawings, septum panels shall consist of a solid 16 ga. minimum galvanized outer skin, a septum skin and a 22 ga. minimum galvanized inner skin.

### **C. Panel Components and Installation**

1. All accessory trim items shall be of 18 ga. minimum galvanized steel and shall be furnished in factory-standard lengths to be field cut to specified dimensions. Locations and quantity of sheet metal screws and trim requirements shall be in accordance with the manufacturer's installation details.
2. Base channel shall be installed on a level and true steel or concrete surface.
3. All external panel connectors, trim items, accessories, base channel/panel interfaces/base channel/floor interfaces, and other sections as noted on the drawings shall be sealed with an acoustical sealant that shall not harden and prevent disassembly in the future.

### **D. Structural Performance**

1. Any special external panel loading conditions including wind, snow and equipment shall be provided for as per specifications.
2. Under the indicated loading conditions, the entire enclosure system shall be self-supporting and/or will be supported as per the specifications. The installer shall furnish and assemble all structural members in strict accordance with drawings and manufacturer's installation details.
3. Under the above loading conditions, the assembled acoustical structure shall not exhibit any panel joint deflection in excess of  $L/240$ , where L is the unsupported span length of any panel section in the erected structure.

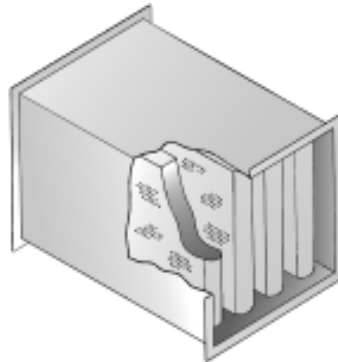
### **E. Acoustical Performance**

The manufacturer shall provide certified independent test data indicating sound absorption and transmission loss characteristics of the panel assembly.

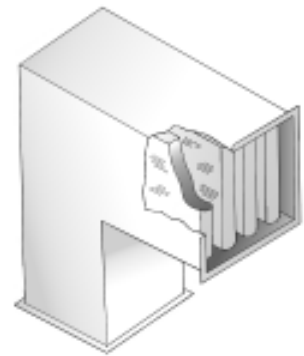
## Other Kinetics Noise Control Products



CIRCULAR SILENCERS



RECTANGULAR SILENCERS



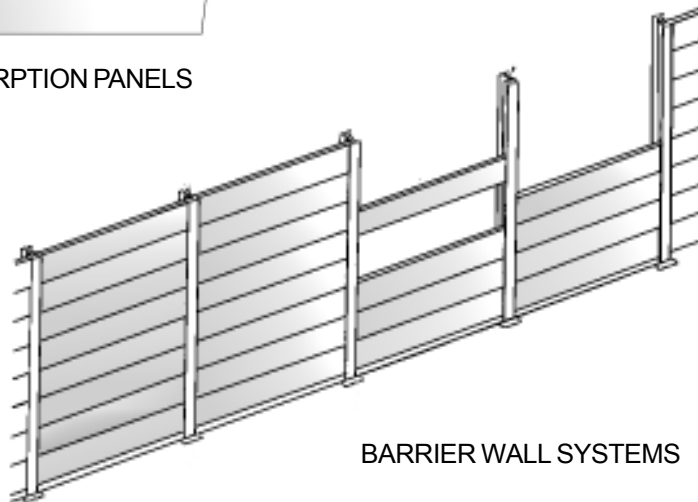
ELBOW SILENCERS



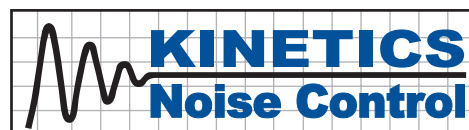
KNP ABSORPTION PANELS



MUFFLERS



BARRIER WALL SYSTEMS



**United States**  
6300 Irelan Place  
P.O. Box 655  
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Phone: 614 889-0480  
Fax: 614 889-0540

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[www.kineticsnoise.com](http://www.kineticsnoise.com)

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.