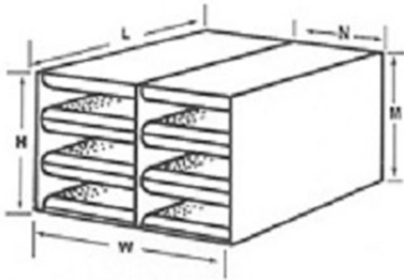


Duct Silencers Data Sheet

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Duct Silencers - *Silencers* or **Duct Silencers** are an engineered product specifically designed to control airborne noise in ducts, openings in buildings, enclosures, or equipment. This makes them ideal for use at hospitals, conference rooms, hotels and office buildings in which a silent environment is preferred. Our industrial silencers are custom engineered to meet the requirements of all applications. Spatial limitations, fan requirements and pneumatic pressure drops are all factors that call for particular attention when incorporating noise control products, including sound traps and duct silencers, into the existing system construction.

We provide expert engineering support, such as sound surveys, noise analysis, feasibility studies and acoustic consulting, to guarantee that the product you receive is the best fit for your needs. **Some examples of silencers and their applications are:**



Example of a 'Banked' Silencer

Acoustical Silencers
Reduction of sound reverberation

Gen-set Silencers
Control noise produced by generators/engines

HVAC Silencers
Sound attenuators for building ventilation systems

Sound Traps
Reduce sound volume from noisy machinery on the factory floor



Circular Silencer

Standard and Custom Silencers - For projects that necessitate silencers that are larger than the maximum standard dimensions (48" x 48"), we carry rectangular duct silencers. These can be fabricated as two separate standard silencers and constructed to fit the structure you are working with. We also carry round duct silencers with features including but not limited to galvanized perforated sheet metal, spun head to reduce pressure loss, and a pressure light casing.

Types of Silencers

Industrial Duct Silencers - Openings into or out of noisy environments are primary systems for the application of *industrial silencers*. These consist of utility rooms, building ventilation systems, etc. Imagine how difficult it would be to work in a conference room filled with the noise of a fan motor, or recovering from an illness in a hospital room only to be disturbed by the sounds from a loud duct right outside the window. Noise control measures, such as silencers, allow the air to flow freely from the necessary generators without the addition of any unwanted sound.

Unger Technologies, Inc. offers a complete range of standard and custom engineered silencers to satisfy your noise control needs. Effective noise control works to reduce noise through engineering. We provide you with the design and engineering assistance to integrate our silencer designs into a system solution. We optimize our engineered silencers to ensure comfort, health and safety. At the same time, our engineering services assist you in complying with environmental regulations and community standards.

Industrial Silencers

- Galvanized, carbon or stainless steel casing
- All welded construction
- Birdscreen
- Access Doors/Panels
- Mounting/Support Flange
- Duct Extension
- Weather Hood
- Painted Exterior
- Filters
- Support Brackets/Legs

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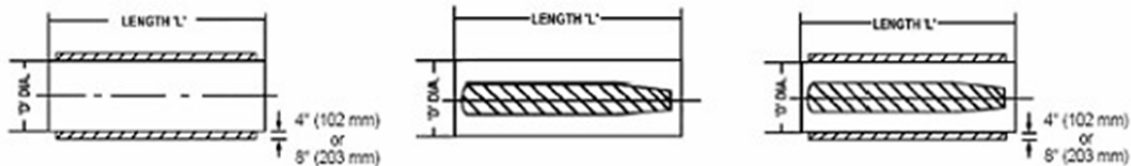
Silencer Banks: A silencer of width "W" and height "H", which is larger than the maximum standard silencer dimensions of 48" x 48" (1219 mm x 1219 mm), can be fabricated as separate standard silencers (2 separate silencers banked to fit 1 larger duct *shown above*). For either option, the performance specification can be selected for the chosen unit size using the rectangular silencer selection procedure.

Baffles can be installed vertically or horizontally, with height limitations of 168" (4267 mm) and 96" (2438 mm), respectively. For large banks do not use horizontal baffles.

Circular Silencers

- Cylindrical pressure-tight casing
- Acoustic media protected by galvanized perforated sheet metal
- Tapered tail optimally designed for velocity pressure regain and insertion loss
- Streamlined acoustic core baffle
- Spun head for reduced entrance pressure loss
- 3" (76mm) slip flange on both ends

Circular Silencer Types:



Specifications:

Silencers shall be fabricated from G90 galvanized steel. The casing shall have the following minimum thickness: 22 ga. (0.85 mm) for Diameter (D) between 12" - 24" (305 - 610 mm).
18 ga. (1.31 mm) for Diameter (D) greater than 24" (610 mm).

All silencers shall be airtight to a pressure differential of 10" Wg.

The acoustical absorption media shall be continuous strand fiberglass packed under compression and protected by a minimum 22 ga (0.85 mm) galvanized perforated steel. The absorptive core baffle shall be centered in the casing and shall have a spun head on the inlet end. The tapered tail of the core baffle shall be optimally designed for pressure drop and insertion loss.

Options:

- Blank or drilled iron ring flanges, single or companion
- Fiberglass cloth or teflar film between acoustic media and perforated interior and bullet shell
- Lifting lugs appropriate for horizontal or vertical orientation
- Stainless steel type 304 or 316, aluminum construction
- Mounting feet

Insertion Loss:

Insertion loss data is provided for standard silencer construction. If special designs are required, such as plastic film or glass fiber cloth covering for the acoustic media, consult Unger Technologies.

Pressure Drop:

The pressure drop across the silencer increases with the length of the silencer yielding higher insertion loss. For silencers with a sound absorbing bullet, higher insertion losses are achieved by reducing the open area of silencer face area. This constricts the flow and increases the pressure drop. Pressure drop data is presented for a silencer inserted in a duct when neither end is near a bend, elbow or transition.

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