

Acousti-Tube™ Silencer Series

The Acousti-Tube silencer is designed to attenuate high-frequency noise generated by gas turbine inlets, axial fans, and compressors. The modular design allows subassemblies to be combined into custom configurations. This bulletin describes standard design features. See the *Acousti-Tube Product Selection Guide*, catalog 260, for information on specifying silencer performance and ordering standard models.



Physical Description

ACOUSTIC INSULATION

Several layers of acoustic material are used to reduce high-frequency noise.

- **Material:** 3-lb/ft³ fiberglass. The industrial insulators are made of inorganic glass fibers, formed with a thermosetting resin into semi-rigid rectangular boards.



Model AT-8x8-5
Acousti-Tube silencer



Model AT-2x4-2
Acousti-Tube silencer

TUBES

Air flow through the silencer is provided by a series of polypropylene tubes wrapped with a spun-bonded polyester material. The tubes have an open web design that allows the acoustic wave to pass into the fiberglass pack, providing excellent high-frequency noise attenuation.

- **Material:** 100% virgin homopolymer polypropylene resin.

The tubes are captured by two ABS faceplates, which are perforated to allow air passage, yet strong enough to resist deformation in service.

- **Basic Material:** ABS extrusion-grade thermoplastics.
- **Additives:** Impact modifiers are added to the basic resin to increase the impact strength (toughness) of the faceplates.

Ultraviolet stabilizers are used to protect the finish from exposure to sunlight and to prevent the degradation of strength properties.

SHELL

- **Material:** Typically, 3/16-in. structural-grade steel. Minimum thickness is 10 ga.
- **Finish:** Solvent-cleaned by SSPC-SP-1, shop coat primer finish inside and outside, and a blue enamel finish outside. Paint system withstands internal gas temperatures up to 225° F and skin temperatures up to 200° F. Optional paint systems are available.
- **Assembly:** Gasketed and sealed externally with zinc-plated bolts.

FRAMES

Subassemblies are supported by frames on each end.

- **Material:** Structural-grade extruded fiberglass angles.
- **Construction:** Each silencer includes gasketing or caulking, and attachment hardware for the outlet flange, with 10% spares.

DIMENSIONS AND WEIGHTS

See Figure 1 and Table 1 (reverse side).

Environmental Description

APPLICATION TEMPERATURE

- -20° F to 225° F.

DESIGN LOADS

- Wind loads of 90 mph in accordance with ASCE 7/95 (American Society of Civil Engineers).
- Ground snow load of 50 lb/ft² in accordance with ASCE 7/95.
- Seismic zone 3 for all silencer elevations and seismic zone 4 for elevations below 30 ft in accordance with UBC 97 (Uniform Building Code).
- Upset pressures of ±20" w.g. without permanent deformation.
- Dead loads up to silencer's weight.



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Noise Control and Air Filtration

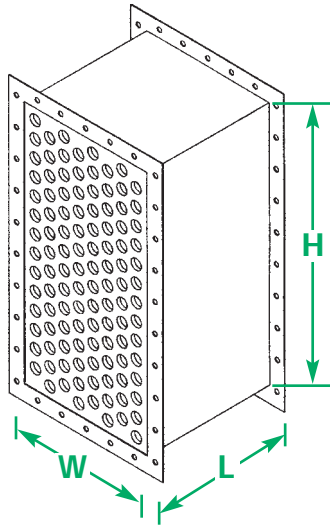


FIGURE 1.
Guide to Acousti-Tube dimensions.

TABLE 1. Models, dimensions, and weights. Refer to dimensional drawings for flange details.

Model (AT-H x W-L*)	Silencer Dimensions			Silencer Weight (lb)				Dimensional Drawing Number*
	H (in.)	W (in.)	L (ft)*	2-ft L	3-ft L	4-ft L	5-ft L	
AT-2 x 2-L	24.00	24.00		205	290	375	460	07-22L-AA
AT-2 x 3-L	24.00	36.00		260	370	480	580	07-23L-AA
AT-2 x 4-L	24.00	48.00		305	445	575	700	07-24L-AA
AT-3 x 4-L	36.00	48.00		405	565	730	885	07-34L-AA
AT-4 x 4-L	48.00	48.00		470	555	860	1040	07-44L-AA
AT-4 x 6-L	48.00	72.00	Specify 2, 3, 4, or 5.	645	905	1160	1425	07-46L-AA
AT-5 x 6-L	60.00	72.00		770	1060	1355	1685	07-56L-AA
AT-6 x 6-L	72.00	72.00		875	1210	1540	1905	07-66L-AA
AT-6 x 8-L	72.00	96.00		1045	1460	1865	2305	07-68L-AA
AT-7.5 x 7.5-L	90.56	90.56		1200	1890	2140	2625	07-77L-AA
AT-8 x 8-L	96.00	96.00		1295	1805	2295	2830	07-88L-AA

* L represents depth in feet. Substitute 2, 3, 4, or 5 for L in the model and drawing numbers.

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