PRODUCT SELECTION GUIDE

Acousti-Tube® Silencers

- Excellent for gas turbines, axial fans, and compressors
- Modular, compact, and lightweight
- Low-cost, corrosion-resistant materials
- Superb high-frequency insertion loss
- Suited for a wide range of applications and temperatures

UNIVERSAL SILENCER

ACOUSTI-TUBE® SILENCERS

Product Catalog 260-A

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A FLEETGUARD/NELSON COMPANY

Noise Control and Air Filtration

Our modular, compact, lightweight Acousti-Tube silencer knocks out high-frequency noise while minimizing pressure drop.

Quietly conditioning noise

The Acousti-Tube silencer comes in standard cross-sections and lengths, which cover a wide range of applications and are economical solutions to noise problems. The silencer's modular design allows customization for non-standard configurations without any loss of acoustic performance or increased pressure loss.

Composite materials are used in the flowpath to reduce corrosion and maintenance. The lightweight, easy-to-handle design reduces shipping cost and installation time. The Acousti-Tube modules are factory-assembled in a high-transmission-loss steel frame. The frame has a standard high-performance, two-coat paint system on interior and exterior surfaces suitable for outdoor installations.

Specifying performance is easy.

Only three parameters are needed to select the correct silencer: required acoustic insertion loss, allowable pressure loss, and the flow in actual cubic feet per minute (acfm) for your equipment.

The tables and charts on the facing page have been set up to allow selection of the appropriate Acousti-Tube silencer using these three parameters.

Follow these steps to determine the silencer needs appropriate for your application:

1. **Determine the required dynamic insertion loss by octave band** for your equipment.

2. **Use Table 1 to select the minimum silencer length** that gives the required octave band insertion loss.

3. **Determine the allowable pressure drop (inches of H_2O) and acfm** for your application.

4. **Choose the Acousti-Tube model for your application.** In Figure 1, find the *y*-axis value for the allowable pressure drop. Read straight across the graph to the pressure drop curve.

   The corresponding *x*-axis value is the maximum face velocity that will maintain the pressure drop requirement.

5. **Divide the acfm by the required face velocity** to find the minimum cross-section that would give the required pressure drop.

   Face velocity is defined as the flow rate in acfm divided by the silencer face area in square feet (see Table 2).

6. **Select the silencer model** from Table 2. Replace ***L*** in the model number with the length of silencer you found in step 2. The pressure drop will be equal to or slightly below the allowable pressure drop you selected. For special applications that require minimum pressure drop and demanding acoustic specifications, contact Universal Silencer.

Internet E-mail: ***turbines@universal-silencer.com***
On the Web: ***www.universal-silencer.com***

TABLE 1. Dynamic insertion loss in dB for face velocities <1500 fpm.

Silencer Length (ft)	Octave Bands (Hz)								
	31.5	63	125	250	500	1 k	2 k	4 k	8 k
2	0	2	5	7	13	26	40	39	32
3	0	2	6	9	17	32	50	48	37
4	1	3	7	11	20	40	55	53	41
5	1	4	8	13	23	42	60	56	43

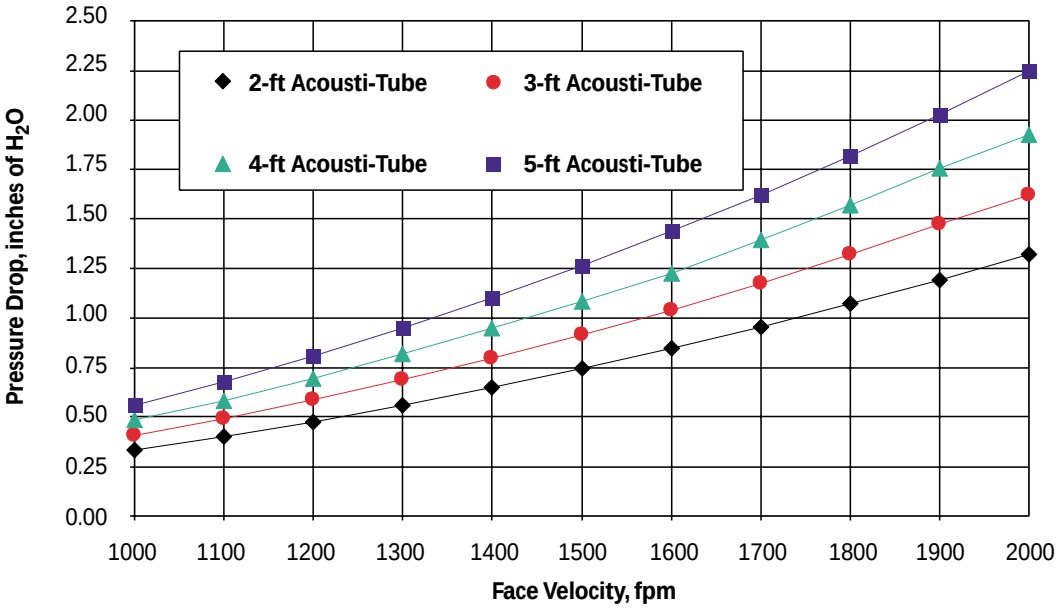

FIGURE 1. Pressure drop vs. silencer face velocity.
To find the pressure drop for gas temperatures other than 60° F, multiply the selected value by 520/(actual gas temperature °F + 460).

TABLE 2. Acousti-Tube models and face areas.

MODEL (AT-H x W-*L*)	Face Area (sq ft)
AT-2 x 2-*L*	4.00
AT-2 x 3-*L*	6.00
AT-2 x 4-*L*	8.00
AT-3 x 4-*L*	12.00
AT-4 x 4-*L*	16.00
AT-4 x 6-*L*	24.00
AT-5 x 6-*L*	30.00
AT-6 x 6-*L*	36.00
AT-6 x 8-*L*	48.00
AT-7.5 x 7.5-*L*	56.25
AT-8 x 8-*L*	64.00

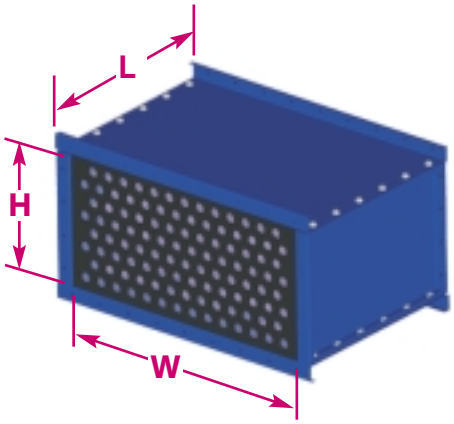

FIGURE 2. Guide to Acousti-Tube dimensions. The Acousti-Tube silencer comes in standard cross-sectional dimensions and standard flange patterns. Flange patterns also can be designed to match your specifications. Acousti-Tube silencers may be applied at temperatures that range between -20° F and 200° F.

For standard flange patterns, silencer weights, and other details, see Technical Bulletin 94-1315.

EASY ORDERING: Please order by model number. For example, AT-4 x 6-4 represents a silencer 4 ft high by 6 ft wide, 4 ft long.

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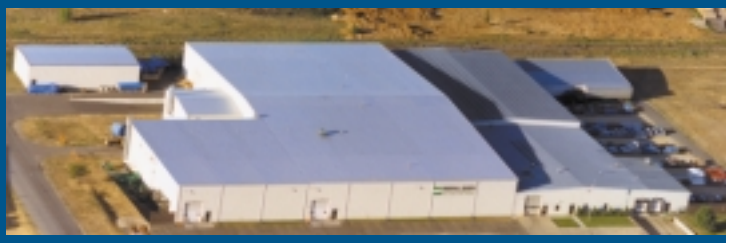
Acousti-Tube® Silencers

Our corporate headquarters are located in Stoughton, Wisconsin, just southeast of Madison, the state capital. This building houses administration, sales, and engineering departments.



Manufacturing facilities are in Muscoda (above), 75 miles west of Stoughton, and Montello (below), 70 miles north.

DNV Certification, Inc.
ISO 9001 REGISTERED FIRM

Our products have been used to protect, quiet, and optimize the performance of industrial equipment for 40 years. We maintain a fully equipped testing facility to qualify filters and silencers. We are an ISO 9001 registered firm and ASME Code certified.

Contact us for more information about our complete line of industrial silencers, air filters, and filter-silencers:

- **Universal Silencer guide to gas turbine products,** *catalog 265*
- **Gas turbine products,** *catalog B-249*
- **Acousti-Tube® silencers,** *technical bulletin 94-1315*
- **Acousti-Vane™ silencers,** *catalog 275*
- **Acousti-Vane™ silencers,** *technical bulletin 94-1327*
- **StrataClean™ barrier air filter systems,** *catalog 268*
- **StrataClean™ Pulse air filter systems,** *catalog 269*
- **Air filters and filter-silencers,** *catalog 241*
- **Cartridge air filters and filter-silencers,** *catalog 242*
- **CB compact blower silencers,** *catalog 255*
- **CBF/CBFI compact blower filter-silencers,** *catalog 261*
- **Air filter restriction gauge,** *catalog 81-1234*
- **Reciprocating engine silencers,** *catalog 246*
- **Rotary positive blower silencers,** *catalog 244*
- **Absorptive silencers,** *catalog 245*
- **Vent and blowdown silencers,** *catalog 243*
- **Compressor silencers,** information provided by application
- **Vacuum pump separator-silencers,** *catalog 222*
- **Industrial fan silencers,** *catalog 249*
- **Silencers for steam ejectors, pressure reduction valves, and other special applications**

Keeping industrial equipment clean and quiet.

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