



UNIVERSAL
Acoustic & Emission Technologies



QuietShield™ Engine Silencers

20–25% Smaller Size

50% Reduced Engine Backpressure

35% Better Acoustic Performance

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Note

•• All dimensions in inches and weights in lbs, unless otherwise indicated.

General Information



Company Profile

Innovation, design and manufacturing expertise provide the solid foundation of our reputation in the specialist field of exhaust, emission and filtration systems at Universal Acoustic and Emission Technologies, formerly Universal Silencer, Nelson Muffler and Nelson-Burgess.

For more than 50 years our name has been synonymous with quality and innovation of design achieved through partnerships with our customers.

Our product range of industrial and marine silencers, mufflers and filtration products have been internationally recognized for offering the highest standard of quality, reliability, and performance. Our insight and expertise justify our reputation as the leader in exhaust and filtration systems.

We take pride in providing a total value package of the most technologically advanced products and innovative services in the industry. Working hand in hand with our customers, we tailor solutions to specific applications.

In this rapidly changing world, our advanced design and development testing facilities will help our customers meet the environmental challenges of the 21st century and beyond.

Silencer Sizing

You must know the following information:

- A** exhaust flow rate (CFM)
- B** silencer inlet size (in²)
- C** level of silencing required

Calculate exhaust gas velocity by dividing the flow rate by the pipe area:

$$\frac{\text{exhaust flow rate (CFM)}}{\text{silencer inlet pipe area (in}^2\text{)}}$$

Reference the pressure drop curve in the silencer spec sheets. Using the calculated exhaust gas velocity, find the corresponding estimated pressure drop on the curve. If you have selected a silencer that achieves your silencing level requirements at an acceptable pressure drop level, you have identified the silencer that is right for you!

Selection Assistance

If you need help with selecting and sizing your silencer, please contact your nearest Universal commercial office (see back cover of catalog). Please also visit our interactive sizing application software on our website: www.universalAET.com. The software also has some current engine manufacturer performance data from which to select. Dimensional drawings for most silencers are also available for download on the website.

Notes

Keep in mind that silencers are not designed to support their weight from the inlet or outlet tube, or support other components of the exhaust system, such as stacks. For the most efficient operation of all silencing units, proper mounting attachments are required.

⚙️ All dimensions are in inches unless otherwise stated.
All weights are in lbs and are approximate.

⚙️ All information correct at time of printing. Universal has a policy of continuous improvement. Therefore we reserve the right to change the specifications of these silencers without notice.

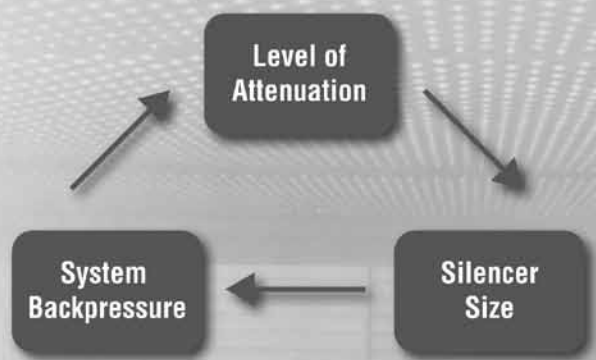
General Information

QuietShield™ Line of Silencers

Quieter, less restriction, and smaller

At Universal, we have a history of developing innovative sound and emission control devices. Our innovation tradition was established with Nelson and Nelson-Burgess' know-how throughout the years. With the new QuietShield™ Silencer, we did not disappoint our tradition.

There are three design components to consider when selecting a silencer—level of attenuation, silencer size, and backpressure. The rule of thumb is “You can have two, but not three.” To gain in one area, another area needs to suffer.



The QuietShield™ breaks the rule of thumb by allowing all three! Universal took the best of both its traditional designs, Nelson and Nelson-Burgess, and combined them into a breakthrough in silencer design. It incorporates reactive and absorptive silencer technologies to provide a smaller, less restrictive and higher performing silencer.

FEATURE	BENEFIT
35% Better Acoustic Performance	Reduces chance of noise complaints Utilize a lesser grade of silencer for cost savings
50% Less Backpressure	Engines operate more efficiently Less wear and tear on engine components Allows retrofit opportunities with emission control devices
20–25% Smaller Size	Easier to fit into tight enclosed packages and equipment rooms Easier to install = less labor cost

See back cover for ordering information | www.universalAET.com

General Information

Tale of the Tape

Comparison between a standard silencer and the QuietShield™, 12" inlet, critical grade at 7,000 CFM on a one MW Generator.



*Actual engine test data

The QuietShield™ Program

Universal provides a complete solution for your exhaust needs. Our mission is to provide an exhaust system that is easy to select and purchase. The QuietShield™ Program provides:

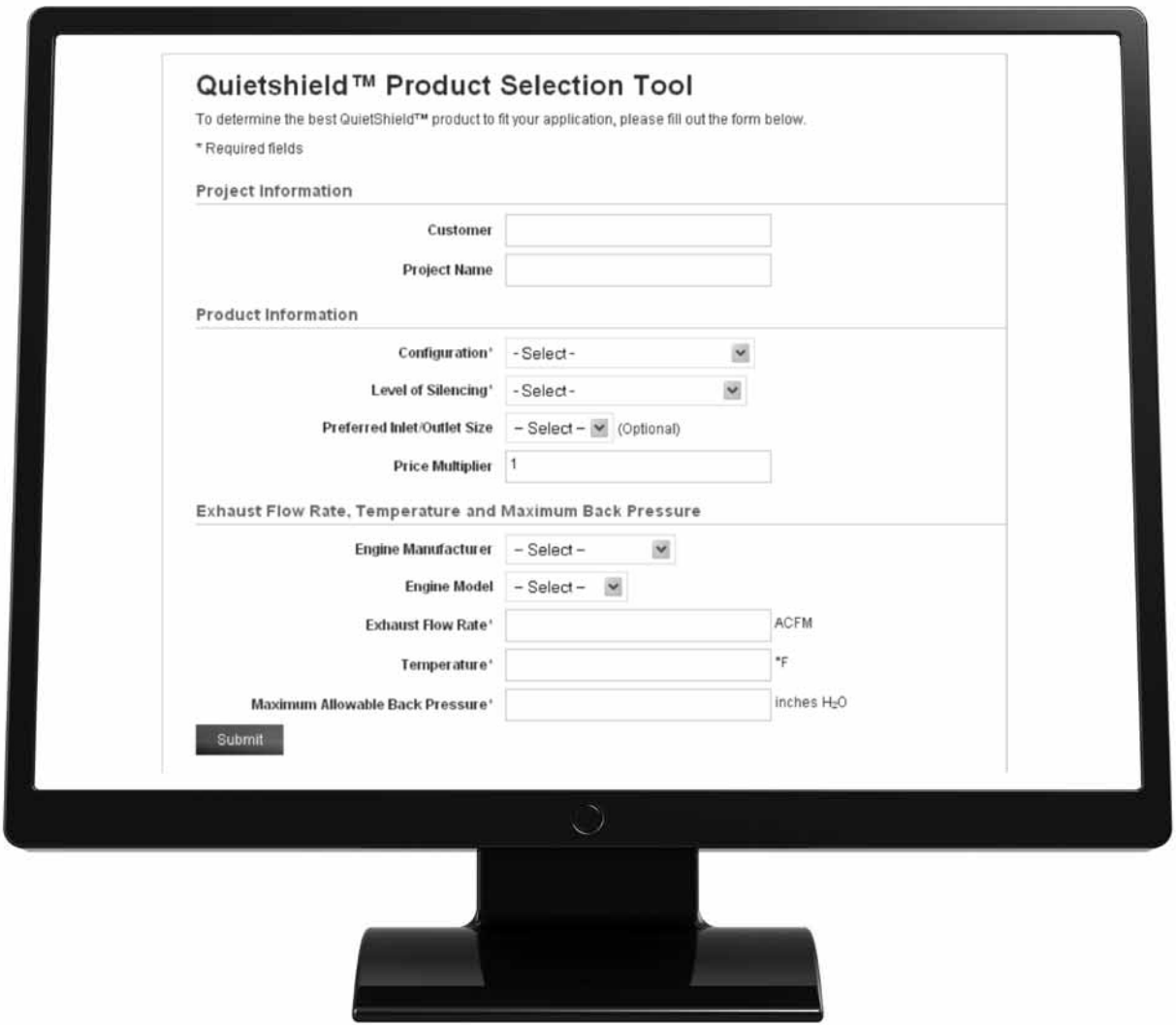
FEATURE	BENEFIT
Internally insulated shell	No need for costly insulation blankets
Ancillary equipment such as mounting brackets, flanges, bellows, elbows, and mounting kits	Issue one PO Peace of mind knowing it will all fit
Hundreds of stocked items	Fast delivery
Automated sizing and selection tools	Easy and quick selection of silencer size and type. Provides recommendations for ancillary equipment
Optional stainless steel construction available	Able to meet demanding applications
Custom design and manufacturing capabilities	No need to compromise on your system's performance

General Information

Configure Your Exhaust System Online!

Use the online QuietShield program to size, configure, customize and price your silencer. The program also provides a list of available accessories such as wye connections, elbows, outlets, rain caps and attachment brackets.

Visit: <http://www.universalAET.com/en/quietshield/>



Customize Your QuietShield Silencer!

Configure your QuietShield Silencer to the special requirements of your application.

1. Customize Inlet & Outlet Lengths for Direct Replacement of Existing Parts or to Eliminate Extensions

- ∴ Extended Inlet (K) and/or Outlet

2. Customize Side Inlet Location to Eliminate Elbows or Simplify System Piping

- ∴ Variable Location - Y dimension (*within available range*)

3. Add Weld-on Support Brackets for Easier Installation

- ∴ Shell Saddles
- ∴ Vertical-mount Brackets
- ∴ Horizontal-mount Brackets
- ∴ Support Legs
- ∴ Lift Lugs

4. Add a Custom Finish or Material

- ∴ Aluminized Steel Shell
- ∴ Stainless Steel Construction
- ∴ Optional High Temperature Black Paint

5. Optimize Inlet & Outlet Connections

- ∴ Reduced or Expanded Inlet and/or Outlet Flange
- ∴ Change to Floating Flange Connections
- ∴ Slotted & Clamped Connections
- ∴ Eliminate Outlet Flange

6. Add an Inlet or Outlet Elbow

- ∴ Formed Elbow (Tubes ≤ 6 " OD)
- ∴ Mitered Elbow (Tubes > 6 " OD)

7. Added Special Features

- ∴ Pressure Relief Door
- ∴ Inspection Opening

8. Optimize Performance to Match your Specific Application

- ∴ Acoustic Optimization by Universal Engineers (*Note: Requires engine data*)
- ∴ Reduced Back Pressure Design (*Note: Sound attenuation will be reduced*)

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Global Support

Contact a global office for assistance in the design and manufacture of your exhaust system requirements.



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