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Engineering

Universal Port Silencers Design Improvement CFD

A-8900

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Problem description

Baum Pneumatics universal port silencers were analyzed under various inlet volume flow rates and different acoustic features positions to:

- Significantly lessen the pneumatic blower noise
- Minimize the air resistance level

Results

Results showed that the reactive section is effectively rebounds sound waves to the packing section to further reduce noise level. Figure 1 shows the total pressure field inside universal port silencer the effect of reactive section is clear in this figure.

Figure 2 shows attenuation (noise reduction) through the universal port silencer in different frequencies.

Figure 3 shows the air flow pathlines inside silencer.

PATENT PENDING CANADA + USA

TOTAL ACOUSTIC PRESSURE FIELD (Pa)

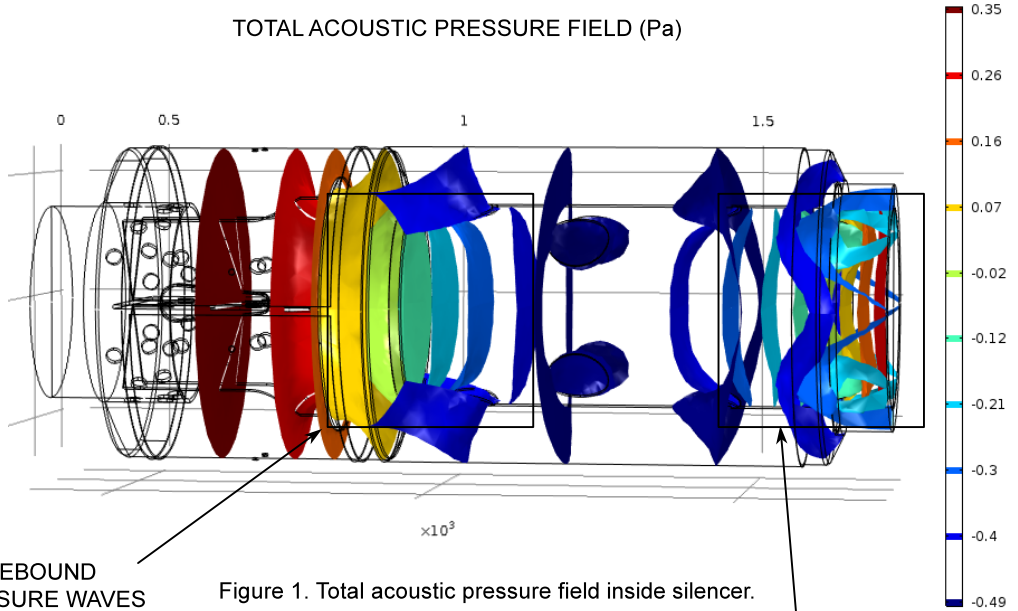


Figure 1. Total acoustic pressure field inside silencer.

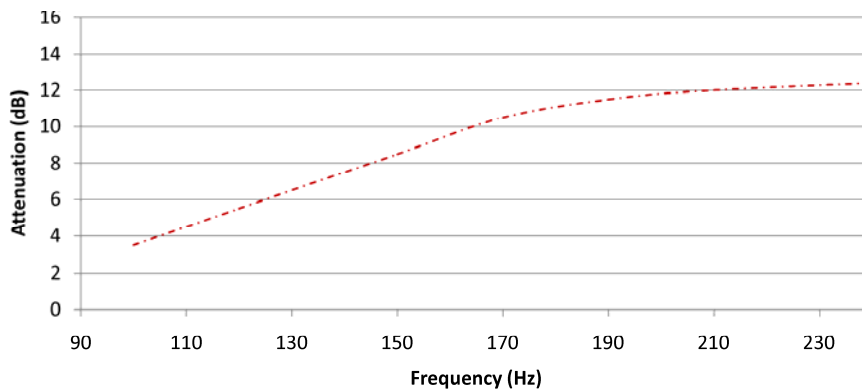


Figure 2. Attenuation Curve.

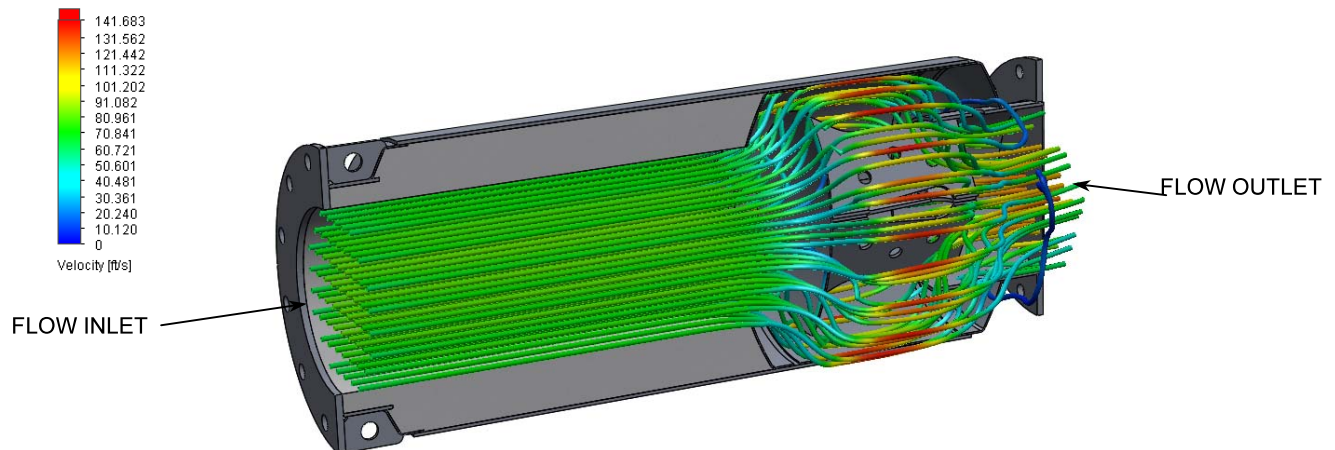


Figure 3. Air flow pathlines inside silencer.

For universal port silencer dimensions see A-8100