



## Analysis software AFD 8001 – AcoustiCalc® for systems of mufflers

The analysis software AFD 8001 – AcoustiCalc® is a powerful tool for determining the spectral transmission loss and the spectral insertion loss of systems of silencers and mufflers.

The working principle of the analysis software is based on the analytical description of the specific elements of ducts and mufflers as fourpoles according to linear network theory.

By concatenation of the single elements, the acoustic behavior of arbitrary systems of silencers and mufflers can be predicted with respect to defined operational conditions.

Calculate the acoustic efficiency of your complex systems of mufflers fast and easily by an intuitive user interface.



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The analysis software **AFD 8001 – AcoustiCalc®** is a powerful tool for determining the spectral transmission loss and the spectral insertion loss of systems of silencers and mufflers.

### Fields of application

#### Acoustic consultancy

The analysis software is interesting for you if you are a consulting engineer who acoustically applies and designs various systems of silencers and mufflers to achieve a legally required or appropriate noise reduction of sound emitting devices and machines, such as:

- exhaust systems
- ventilation systems
- air conditioning systems

Thereby, the variety of applicable components of silencers and mufflers ranges from:

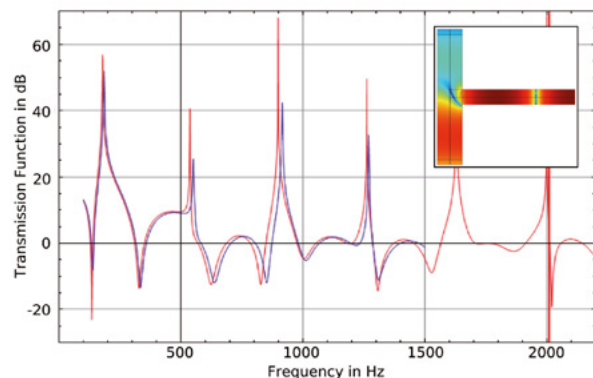
- absorption mufflers
- reflection mufflers
- resonance mufflers
- duct elements
- specific installations

By choosing the right geometrical parameters and material parameters, the system of mufflers can be optimized by you with respect to the given acoustical requirements.

The application of a specific program option enables the efficient acoustic test of new sound absorbing materials by evaluating the absorber material parameters directly measured with the help of AFD 1000/1200 – AcoustiTube®.

#### Fabrication of silencers and mufflers

The software is also very helpful to you if you are a **manufacturer** who develops, fabricates and distributes collections of components of silencers and mufflers that are to be efficiently applicable to a wide operational range. In this case, mathematical descriptions for the acoustic efficiency of your own business-specific components can be developed and implemented.



Validation of the analytical calculation model of a  $\lambda/4$ -resonance muffler by means of numerical calculations

#### Advantages

- The software enables you to create a house-internal product database containing the acoustic behavior of every single component. So you can always easily choose the right component to meet the specific requirements.
- The accuracy of predicting the acoustic efficiency of your specific components of mufflers can be optimized by acoustic measurements at fabricated components. The measurement results are directly applied to the customized computation model. These adjustments are specific to your fabrication granting you exclusive access to them.