Side branch resonators are commonly used for engine exhaust noise. A side branch resonator is nothing more than a dead-end section of pipe connected to the main. Side branch Helmholtz resonators (HRs) are widely used to control low frequency tonal noise in air duct systems. A side branch Helmholtz resonator is attached to the side of the duct by a side branch, as depicted in Figure 1. The basic approach to calculate the change in the acoustic impedance of a side-branch resonator caused by mean flow effects has also been presented, using a numerical study of sound propagation in a one-dimensional duct with identical side-branch resonators mounted periodically. The analysis of each resonator was performed.

The side branch resonators, which produce a narrow band of high acoustic attenuation at a specific frequency, are acoustic reactive elements of sound. Reciprocating compressors that employ side branch acoustic resonators to control tonal noise are a typical device of this category. This paper describes an adaptive side branch resonator that can be used to attenuate tonal noise. The passive Helmholtz resonator only works by adjusting the volume of the resonator. Wei Tan, Yong Sun, Zhi-Guo Wang and Hong Chen. Pohl Institute of Solid State Physics, Tongji University. A T-pipe T-filter, also known as a side branch pipe, is closed off at the end. The model is then modified to include side branch resonators. The parameters describing the side branch resonators and their coupling to the combustion were studied using Compact High Frequency Side Branch Resonators.

Advances in Powertrains and Automotives, vol. 1, pp. 1-10. Side branch resonator strategy for sale. The side-branch geometries that were tested were a sharp cutoff, a gradual cutoff, and a smooth cutoff. Of the side branch resonator impedance will usually increase 2. tonal noise propagating in ducts is to use one or more side branch resonators, each tuned to a specific frequency to achieve effective attenuation.
of which is specifically designed for optimal performance at control system can be implemented together with a side branch resonator. A side branch resonator is presented, along with some measurement results and.