

MODELLING CHARACTERISTICS OF PRESSURE OSCILLATION DAMPERS WITH REGARD FOR DISTRIBUTION OF THEIR PARAMETERS

© 2007 S. K. Botchkaryov, G. M. Makaryantz, A. B. Prokofiev, Ye. V. Shakhmatov

Samara State Aerospace University

The paper discusses the use of analytical and numerical models to calculate a complex of working fluid pressure oscillation damper inherent characteristics. Convergence of calculation results using both models in the low-frequency region is shown. In the high-frequency region lack of adequate account of the damper expansion cavity parameters' distribution in analytical models results in overestimating the damper's design efficiency, which may fail to provide the system's prescribed serviceability after a damper of this kind is introduced into it. Advantages and disadvantages of each model are stated, frequency areas for their application are defined.