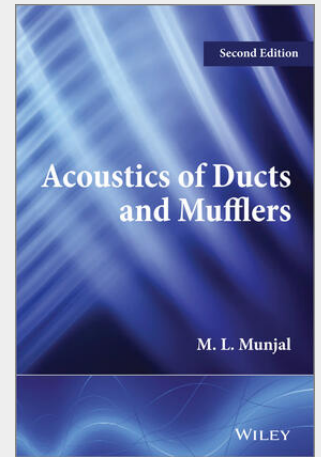


Munjal

Acoustics of Ducts and Muffler

Fully updated second edition of the premier reference book on muffler and lined duct acoustical performance Engine exhaust noise pollutes the street environment and ventilation fan noise enters dwellings along with fresh air. People have become conscious of their working environment. Governments of most countries have responded to popular demand with mandatory restrictions on sound emitted by automotive engines, and a thorough knowledge of acoustics of ducts and mufflers is needed for the design of efficient muffler configurations. This fully updated Second Edition of Acoustics of Ducts and Mufflers deals with propagation, reflection and dissipation/absorption of sound along ducts/pipes/tubes, area discontinuities, perforated elements and absorptive linings that constitute the present-day mufflers and silencers designed to control noise of exhaust and intake systems of automotive engines, diesel-generator sets, compressors and HVAC systems. It includes equations, figures, tables, references, and solved examples and unsolved exercises with answers, so it can be used as a text book as well as a reference book. It also offers a complete presentation and analysis of the major topics in sound suppression and noise control for the analysis and design of acoustical mufflers, air conditioning and ventilation duct work. Both the fundamentals and the latest technology are discussed, with an emphasis on applications. Deals with reactive mufflers, dissipative silencers, the frequency-domain approach, and the time-domain approach. * Fully updated second edition of the premier reference book on muffler and lined duct acoustical performance, in one complete volume * Presents original new research on topics including baffle silencers and louvers, 3D analytical techniques, and flow-acoustic analysis of multiply-connected perforated-element mufflers * Includes a general design procedure to help muffler designers in the automotive industry, exhaust noise being a major component of automobile and traffic noise pollution * Written by an expert with four decades' experience in teaching to graduate students, publishing extensively in reputed international journals, and consulting with industry for noise control as well as designing for quietness

Fully updated second edition of the premier reference book on muffler and lined duct acoustical performance The highly successful first edition of this book (1987) is cited in many research and development papers as the only book in the world focusing singularly on this important subject. Over the years, the subject of analysis and design of mufflers has seen great advances in depth as well as breadth. This second edition seeks to offer the latest advances as well the fundamentals, and is a result of the author's four-decade experience in graduate teaching, research, development and extensive industrial consultancy. This much-awaited book covers generation, propagation and suppression of the exhaust and intake noise of the internal combustion engines used in automobiles and captive generator sets, and the fan or the air-handling unit noise of heating, ventilation and air-conditioning systems. A special feature of this second edition is its coverage of three-dimensional analysis as well as the plane-wave theory. It is an essential guide for graduate students on Mechanical Engineering courses, and is a must-read for engineers working on automotive NVH and the HVAC Systems. * Presents original new research on topics including elliptical mufflers, acoustic louvers, 3D analytical techniques, and flow-acoustic analysis of multiply-connected perforated-element mufflers * Includes a general design procedure to help muffler designers in the automotive industry, exhaust noise being a major component of automobile and traffic noise pollution



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