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First edition
1996-12-15

Acoustics — Measurements on silencers *in situ*

Acoustique — Mesurages sur silencieux in situ

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Reference number
ISO 11820:1996(E)

Contents

	Page
1 Scope	1
2 Normative references	2
3 Definitions	2
4 Corrections for background noise.....	4
4.1 Transmission sound pressure level difference	4
4.2 Insertion sound pressure level difference.....	5
5 Installation conditions	5
6 Measuring instruments	5
6.1 Acoustic instruments	5
6.2 Air flow, static pressure and temperature measuring devices	7
7 Test object and measuring conditions	7
8 Measurement procedures.....	7
8.1 General.....	7
8.2 Acoustic measurements	7
8.3 Flow, pressure and temperature measurements.....	9
9 Evaluation	10
9.1 Evaluation of sound pressure measurements	10
9.2 Evaluation of flow measurements.....	12
10 Information to be recorded	13
11 Information to be reported	14
Annexes	
A Field corrections	15
B Calibration of directional microphones and microphones equipped with a turbulence windscreen	17
C Bibliography.....	18

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International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11820 was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

Annexes A to C of this International Standard are for information only.

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Introduction

This International Standard gives a method for evaluating the acoustic performance of silencers under plant-operating conditions. The attenuation losses determined express the extent to which the level of sound power passing through a duct, or across the internal cross-section of an aperture or opening (e.g. in an enclosure or a building) is reduced by the use of a silencer. Sound transmission via flanking elements is attributed to the silencer performance unless the flanking element is not a part of the silencer or of the related duct walls. The influences of flow noise and of alterations to the operating conditions with and without a silencer are included.

In laboratory measurements on ducted silencers in accordance with ISO 7235, insertion losses, static pressure losses and regenerated sound (flow noise) are determined under well-defined conditions. In practical applications both the sound field and flow field are less uniformly distributed. This can lead to different attenuations and greater pressure losses. In addition, sound levels and rates of flow are mutually dependent. Therefore, in this International Standard the regenerated sound is not measured separately but is treated as a property of the silencer in its operating installation which limits the degree of attenuation in the particular application.