

**ISA-S75.07-1997**

Approved August 31, 1997

Standard



**Laboratory Measurement of  
Aerodynamic Noise Generated  
by Control Valves**



ISA-S75.07 —Laboratory Measurement of Aerodynamic Noise Generated by Control Valves

ISBN: 1-55617-653-8

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This Standard was approved for publication by the ISA Standards and Practices Board on August 31, 1997.

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## 1 Scope

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This standard defines equipment, methods, and procedures for the laboratory testing and measurement of airborne sound radiated by a compressible fluid flowing through a control valve and its associated piping, including fixed-flow restrictions. The test may be conducted under any conditions mutually agreed upon by the user and the manufacturer. Although this standard is designed for measurement of the noise radiated from the piping downstream of the valve, other test variations are optional, including the use of insulation and nonstandard piping. (See 4.3.) Applications of this standard to control valves discharging directly to atmosphere are excluded from this standard.

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## 2 Purpose

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The purpose of this standard is to provide a procedure for testing, measuring, and reporting the aerodynamic noise-generating characteristics of a control valve and its associated piping.

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## 3 Test system

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The test system is shown in [Figures 1, 2, and 3](#). The various parts are described below.

### 3.1 Throttling valves

The upstream and/or downstream throttling valves (optional) are used to regulate the test pressures. Caution should be taken to avoid pressure drops which will create significant stream-borne noise. If such pressure drops are unavoidable, then silencers must be used.

### 3.2 Test specimen

The test specimen is any valve, combination of valves, fixed restrictions, and associated piping components for which data are required. The test specimen and test section shall not be insulated, although optional tests may be conducted to determine the effect of insulation. (See 4.3.)