

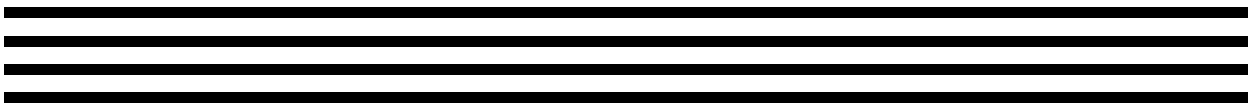
ANSI/ISA-S71.03-1995

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American National Standard



**Environmental Conditions
for Process Measurement
and Control Systems:
Mechanical Influences**



ANSI/ISA-S71.03, Environmental Conditions for Process Measurement and Control Systems:
Mechanical Influences

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Preface

This preface, as well as all footnotes and annexes, is included for informational purposes only and is not part of ANSI/ISA-S71.03.

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This document is one of several standards that address various environmental conditions affecting process measurement and control systems. In developing this standard, the committee goals included the following:

- 1) To provide a practical standard that can be applied with a minimum of research and technical effort by the user.
- 2) To provide a concise method of stating environmental classifications for convenient communications between all users of the standard.
- 3) To cover real-world ranges of each classified parameter.

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1 Purpose

The purpose of this standard is to classify mechanical influences that may affect process measurement and control instruments, in order to provide users and manufacturers of the instruments with a means of specifying the class of mechanical influences to which a specified instrument may be exposed.

This document is one of a series of standards on environmental conditions for process measurement and control systems.

2 Scope

2.1 This standard encompasses mechanical influences, specifically shock and vibration, for industrial process measurement and control systems. Specifications for other environmental conditions, including seismic and transportation, are beyond the scope of this standard.

2.2 This standard establishes mechanical influence classes for non-mobile installations, and includes storage.

2.3 The classes of environmental conditions that are specified in this standard are suitable for process instrumentation. The classes, which include design, manufacturing, sales, installation, test, use, and maintenance, serve as a guide to establish requirements for environmental control of buildings or other protective housings for industrial process measurements and control systems.

2.4 These classifications pertain only to the environment external to the instrument that may affect the instrument externally or internally.

2.5 The effects of environmental conditions on the safety, comfort, and performance of operating and maintenance personnel are not considered in this standard.

This standard is limited to vibration and shock only, covering mechanical influences that affect industrial measurement and control systems.

3 Introduction

3.1 Normal operating conditions for vibration have been established according to the type of location. Within each classification, severity levels have been established. Parameter limit values are tabulated for each classification and severity level of the location. These values are shown in [Table 1](#) of this standard. The classification consists of a class location letter, followed by a severity identification numeral.