



ANSI/CGA P-18—2013
STANDARD FOR BULK
INERT GAS SYSTEMS
FOURTH EDITION



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Work Item 10-052
Bulk Distribution Equipment and Standards

NOTE—Technical changes from the previous edition are underlined.

NOTE—Appendices A and B (Informative) are for information only.

FOURTH EDITION: 2013
THIRD EDITION: 2006
SECOND EDITION: 2005
REAFFIRMED: 2003
FIRST EDITION: 1992

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Approved as an American National Standard on September 3, 2013.

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1 Introduction

This standard is one of a series compiled by the Compressed Gas Association, Inc. (CGA), to satisfy the demand for information relative to the production, transportation, handling, and storage of compressed gases, cryogenic liquids, and related products.

2 Scope and purpose

2.1 Scope

Large industrial and institutional users of argon, nitrogen, and helium need storage units on their premises with greater capacity than that provided by manifolded cylinders. These bulk supply systems are an assembly of storage containers, pressure regulators, pressure relief devices (PRDs), vaporizers, manifolds, interconnecting piping, and, where present, liquid transfer equipment. The inert gases are stored as gas or liquid in either stationary or portable containers. The bulk system terminates at the point where gas at service pressure enters the supply line.

This standard does not apply to carbon dioxide systems. For additional requirements on bulk inert gas systems at health care facilities, see *CGA M-1, Guide for Medical Gas Supply Systems at Consumer Sites*, *NFPA 55, Compressed Gases and Cryogenic Fluids Code*, and *NFPA 99, Health Care Facilities Code* [1, 2, 3].¹ Bulk carbon dioxide system requirements are found in *NFPA 55* and *CGA G-6.1, Standard for Insulated Liquid Carbon Dioxide Systems at Consumer Sites* [2, 4].

2.2 Purpose

The purpose of this standard is to provide information on installation of bulk inert gas systems for argon, nitrogen, and helium service.

3 Definitions

For the purposes of this standard, the following definitions apply.

3.1 Authority having jurisdiction (AHJ)

Organization, office, or individual responsible for approving equipment, an installation, or a procedure.

3.2 Bulk systems

Assembly of equipment such as storage containers, pressure regulators, PRDs, vaporizers, manifolds, and interconnecting piping that has a storage capacity of more than 20 000 scf (566 m³) of compressed gas or cryogenic fluid that terminates at the source valve.

3.3 Combustible liquid

Any liquid that has a closed-cup flash point at or above 100 °F (37.8 °C).

3.4 Combustible material

Material made or surfaced with wood, compressed paper, plant fibers, plastics, or other materials that will ignite or burn.

3.5 Commodity specification

Specification for compressed gas or cryogenic liquid.

3.6 Containers (compressed gas)

Vessels of various shapes, sizes, materials of construction (cylinders or portable or stationary tanks), and designs meeting the specifications of either American Society for Mechanical Engineers (ASME), Transport Canada (TC), U.S. Department of Transportation (DOT), or the applicable pressure vessel authority.

¹ References are shown by bracketed numbers and are listed in order of appearance in the reference section.