



CGA G-6.1—2013
STANDARD FOR INSULATED
LIQUID CARBON DIOXIDE
SYSTEMS AT
CONSUMER SITES

SEVENTH EDITION

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NOTE—Technical changes from the previous edition are underlined.

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1 Introduction

This publication is one of a series compiled by the Compressed Gas Association, Inc., to meet the demand for information on the production, transportation, handling, and storage of compressed and liquefied gases, cryogenic liquids, and related products.

2 Scope and purpose

2.1 Scope

This publication covers the design, location, installation, operation, and maintenance of insulated liquid carbon dioxide supply systems located at user sites. The system covered is from the container fill connections to the user's process piping.

NOTE—Small, stationary, insulated carbon dioxide systems with containers having individual capacities of 1000 lb or less and designed, manufactured, and certified in accordance with American Society of Mechanical Engineers (ASME) *Boiler & Pressure Vessel Code*, Section VIII, Division 1 requirements are not covered by this publication, refer to CGA G-6.5, *Standard for Small, Stationary, Insulated Carbon Dioxide Supply Systems* [1, 2].¹

NOTE—Many of the provisions and design philosophies in this publication apply to storage units in production and depot service. However the operation, operating conditions, and control systems of those units may require further engineering, controls and safety equipment than required by storage units at a user site.

It also contains minimum requirements and recommended practices for the design, construction, installation, operation, and maintenance of such systems.

This publication is intended to serve as a guide for regulatory authorities in writing regulations and to assist designers, inspectors, and other interested parties.

2.2 Purpose

The purpose of this publication is to provide a standard for stationary insulated liquid carbon dioxide storage and supply systems at user sites.

3 Definitions

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

3.1 ASME Code

American Society of Mechanical Engineers *Boiler & Pressure Vessel Code*.

3.2 Approved

Acceptable to the authorities having jurisdiction.

3.3 Appurtenances

All system components (excluding the container) such as pressure relief devices (PRDs), liquid level gauges, valves, pressure gauges, vaporizers, refrigeration systems, pumps, control equipment, and regulators.

3.4 Authorities having jurisdiction (AHJ)

Local, state, provincial, federal, or other bodies having regulatory authority over the equipment being installed or used.

3.5 Capacity

Maximum weight of carbon dioxide a container holds when filled to the proper level.

NOTE—Density commonly used in this calculation is for liquid carbon dioxide at 0 °F (−17.8 °C). Weight of the vapor portion of the container volume is usually not included.

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