Compressed Gas Association
The Standard For Safety Since 1913

CGA G-6.5—2022
STANDARD FOR SMALL STATIONARY INSULATED CARBON DIOXIDE SUPPLY SYSTEMS

FIFTH EDITION
(Corrected 3/16/2023)

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Work Item 17-046
Carbon Dioxide Committee

NOTE—Technical changes from the previous edition are underlined.

FIFTH EDITION: 2022
FOURTH EDITION: 2013
THIRD EDITION: 2007
SECOND EDITION: 2001

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1 Introduction

This publication is one of a series compiled by the Compressed Gas Association, Inc. (CGA) to satisfy the demand for information relative to the production, storage, transportation, safe handling, and use of carbon dioxide in gaseous, liquid, and solid states. There are other CGA publications that provide similar information on other products.

CGA G-6, *Carbon Dioxide*, contains information critical to safe storage and handling of carbon dioxide [1]. [1]

To ensure personnel safety and proper system design, reference to CGA G-6 is highly recommended. Without obtaining CGA G-6, the reader will not be provided with significant information related to the physical properties and common hazards associated with storage, production, transportation, and handling of carbon dioxide [1].

This publication addresses the hazards specifically associated with small stationary insulated carbon dioxide supply systems.

2 Scope

The purpose of this publication is to provide a standard for small stationary insulated carbon dioxide systems with the capacity of each container being 1000 lb (454 kg) or less. It is intended to assist designers, engineers, distributors, restaurant personnel, inspectors, other users, and all interested parties. This publication does not cover portable tanks built to U.S. Department of Transportation (DOT) standards because they require different procedures and equipment to ensure they are not overfilled.

NOTE—DOT 4L portable tanks and ASME stationary containers can look the same to the inexperienced user. See Section 6.

This standard contains minimum requirements and recommended practice for the design, construction, installation, operation, and maintenance of small stationary insulated carbon dioxide systems. This standard covers these systems from the fill connection to the carbon dioxide container gas outlet regulator, which may include both indoor and outdoor installations. See Figures 1 and 2. These systems are primarily used for supplying carbon dioxide gas at beverage dispensing sites and can also be used in greenhouses, by welding fabricators, and for other applications. These systems might also be covered by various national, provincial, state, and local codes. The details of these codes are not covered in this publication. Verify applicable codes in your place of business to ensure compliance. Additional information on carbon dioxide is published in CGA G-6 [1].

***CAUTION**: The piping and equipment beyond the small stationary insulated carbon dioxide storage container outlet valve is capable of releasing hazardous amounts of carbon dioxide. Installation of piping and equipment downstream of the small stationary insulated carbon dioxide supply shall be performed by personnel qualified by reason of training, education, and experience with the equipment used to suitable standards and codes to preclude accidents and injuries.*

The system shall be designed so the container does not become liquid full at the pressure setting of the pressure relief device (PRD). See 8.2 for the liquid transfer procedure. The PRD shall discharge to a safe location outside of the building.

Although this publication shows placement of carbon dioxide detection monitors in various portions of the user facility, the responsibility for the proper location, installation, maintenance, and monitoring of the detection monitoring systems and its component parts is not specifically identified in this publication. The user is generally responsible for these activities. If not, they should be fully described in an agreement between the user and their monitoring equipment manufacturer and installer, or in some instances between the user and their carbon dioxide supplier.

While this standard is to be used as a guide for user installations, final approval of the design, equipment, appurtenances, and installation rests with the authority having jurisdiction (AHJ) in this area.

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