



CGA V-9 — 2024

9<sup>TH</sup> EDITION

**COMPRESSED GAS  
ASSOCIATION  
STANDARD FOR  
COMPRESSED GAS  
CYLINDER VALVES**

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NOTE—Technical changes from the previous edition are underlined.

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

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## 1 Introduction

The Compressed Gas Association, Inc. (CGA) has long recognized the need to promote public safety in the use of cylinder valves. This standard defines factors that contribute to the safe design, manufacture, and use of cylinder valves for compressed gases.

Compressed gases supplied in cylinders are diverse in their chemical composition and properties. Some are oxidizers, some are flammables, some are inert, etc. Gases vary in degrees of corrosivity, toxicity, and pressure and exist not only in the pure state but also in a variety of mixtures. Thus, it is a primary safety requirement of the cylinder valve that it is designed and tested for its intended use.

## 2 Scope

This standard covers cylinder valve design, manufacture, and use including performance requirements such as operating temperature limits, pressure ranges, and flow capabilities. It also includes requirements such as materials, inlet and outlet connections, cleaning, qualification and production testing, maintenance, and conditioning. This standard also includes guidelines and requirements for the design, material selection, testing, and marking of cylinder valve protection caps. Except as noted in the last paragraph of this section, this standard is intended for valves for compressed gases packaged in U.S. Department of Transportation (DOT) and Transport Canada (TC) cylinders.

This standard provides information on valve selection, valve use guidelines, and valve protection caps (see Appendix A, Appendix B, and Section 10, respectively).

This standard does not prejudice the continued use of valves in service in inventory at a manufacturer's or user's site that were manufactured before the effective date of this standard provided the valves are identifiable to the original valve manufacturer and traceable to a manufacturing period. The identifying marks shall be permanent and visible on an installed valve.

The effective date of this standard is three years from the date of the publication of this edition, which was April 23, 2024. Valves manufactured on and after the effective date of this standard shall be in compliance with this standard.

This standard does not prohibit the use of valves that are Listed.

The following valves shall meet the requirements of ISO 10297, *Gas cylinders—Cylinder valves—Specification and type testing* as well as the additional requirements given in this standard [1]:<sup>1</sup>

- cylinder valves intended to be fitted to refillable transportable gas cylinders;
- main valves (excluding ball valves) for cylinder bundles;
- cylinder valves or main valves with an integrated pressure regulator (VIPR) for nonmedical purposes;
- cylinder valves for pressure drums; and
- cylinder valves for tubes (excluding ball valves) not mounted to a chassis or framework.

The following valves shall meet the requirements of ISO 17879, *Gas Cylinders—Self closing cylinder valves—Specifications and type testing* as well as the applicable additional requirements given in this standard [2]:

- Self-closing cylinder valves intended to be fitted to refillable transportable gas cylinders; and
- Self-closing cylinder valves with a VIPR for nonmedical purposes.

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