Compressed Gas Association
The Standard For Safety Since 1913

CGA E-3—2021
STANDARD FOR LOW PRESSURE PIPELINE STATION OUTLET/REGULATOR INLET CONNECTIONS

FIFTH EDITION

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Industrial Gases Apparatus Committee

NOTE—Technical changes from the previous edition are underlined.

FIFTH EDITION: 2021
REAFFIRMED: 2014
FOURTH EDITION: 2008
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SECOND EDITION: 1981

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1 Introduction

The standard, *Regulator Connections Standards*, was adopted in April 1953 by the International Acetylene Association and was updated in March 1958. The original and the updated versions allowed removable pipeline regulators to be connected to the pipeline station by either of two connection systems:

- the same connection as used on high pressure cylinders for the same gas; or
- a "C-size" hose-type connection based on gas type and use, which are designated as CGA Connection Nos 024, 025, 034, and 035.

Since 1958 cylinder pressures have periodically increased, cylinder connections uniquely designed for cylinder conditions have become standardized, pressure control and use equipment has become more sophisticated and operator safety consideration is even more important. For these reasons, it is undesirable to permit regulators intended for station service to be connected to high pressure cylinders. This standard specifies that only the C-size connection system be used for pipeline service.

Since January 1, 1985, all existing pipeline systems, except those for acetylene and liquified petroleum gas (LPG) type gases have been required to be converted to the C-size system.

See CGA E-1, *Standard for Rubber Welding Hose and Hose Connections for Gas Welding, Cutting, and Allied Processes,* for additional information regarding these connections [1].[1]

2 Scope

This standard specifies the connections on removable pipeline regulators and station outlets used in the welding, cutting, and allied processes where the pipeline pressure does not exceed 200 psi (1380 kPa).[2] Removable connections are those that are commonly and readily engaged or disengaged in routine use and service.

A regulator connected to or in the pipeline by pipe threads, bolted flanges, etc., is not considered removable. Therefore, this standard does not apply to the following:

- regulators built into equipment so as to become an integral part of a larger device;
- high capacity regulators generally used in fixed locations and provided with inlet fittings larger than covered in this standard; and
- regulators attached to the pipeline by pipe threads, flanges, etc.

All new pipeline installations shall incorporate the connections specified in Section 5.

This standard does not prejudice the continued use of acetylene and LPG type connections in service or in inventory at a manufacturer's or user's site that were manufactured before the effective date of this standard provided the connections are identifiable with the appropriate CGA markings.

The effective date of this standard is three years from the date of the publication of this edition, which was February 17, 2021. New acetylene and LPG pipeline installations on and after the effective date of this standard shall be in compliance with this standard.

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

[2] kPa shall indicate gauge pressure unless otherwise noted as (kPa, abs) for absolute pressure or (kPa, differential) for differential pressure. All kPa values are rounded off per CGA P-11, *Guideline for Metric Practice in the Compressed Gas Industry* [2].