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CGA V-14—2022

PERFORMANCE STANDARD FOR SEALING GASKETS USED ON CGA 870 CONNECTIONS FOR MEDICAL OXYGEN SERVICE AT A MAXIMUM SERVICE PRESSURE OF 3000 PSI

THIRD EDITION

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Work Item 23-006
Cylinder Valve Committee

NOTE—Technical changes from the previous edition are underlined.

NOTE—Appendix A (Normative) is a requirement.

THIRD EDITION: 2022
SECOND EDITION 2018
FIRST EDITION: 2011

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1 Scope

This publication covers the performance standards required for crush-style and encircled elastomeric gaskets used in medical oxygen service up to 3000 psi at 70 °F (21.1 °C). Sealing gaskets designed to be used with a CGA connection no. 870 shall be qualified at the time of design by the manufacturer in accordance with this performance standard.

For additional information, see V-24, *Guideline for Use of Gaskets in High Pressure Medical Oxygen Cylinder Service* [1].[1]

It is acknowledged that previous editions of this standard used a lower test pressure for qualification of gaskets as the CGA connection no. 870 is currently rated at 3000 psi at 70 °F (20 680 kPa at 21.1 °C) as per CGA V-1, *Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections* [2].[2] The test pressures in this edition were increased to 3600 psi (24 800 kPa). Gaskets qualified at the lower test pressure as specified in previous editions of this publication (2400 psi) are acceptable for continued use in medical oxygen service up to 2216 psi.

The effective date of this standard is two years from the date of the publication of this edition, which was August 19, 2022. Gaskets manufactured on and after the effective date of this standard shall be in compliance with this standard.

2 Definitions

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

2.1 Publication terminology

2.1.1 Shall
Indicates that the procedure is mandatory. It is used wherever the criterion for conformance to specific recommendations allows no deviation.

2.1.2 Should
Indicates that a procedure is recommended.

2.1.3 May
Indicates that the procedure is optional.

2.1.4 Will
Is used only to indicate the future, not a degree of requirement.

2.1.5 Can
Indicates a possibility or ability.

2.2 Technical definitions

2.2.1 Compressive force
Load expressed in pounds of force placed on the sealing gasket as a result of tightening the yoke or regulator T-screw handle.

2.2.2 Gasket
O-shaped object made of an elastomer or other material placed between the valve face and the regulator inlet connection to provide a gas-tight seal.

NOTE: A gasket is sometimes also incorrectly referred to as a washer.

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

[2] psi, bar, and kPa shall indicate gauge pressure unless otherwise noted as (psia; bar, abs; and kPa, abs) for absolute pressure or (psid; bar, dif; and kPa, dif) for differential pressure. All kPa values are rounded off per CGA P-11, *Guideline for Metric Practice in the Compressed Gas Industry* [3].