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NATIONAL STANDARD

ANSI/CAN/UL/ULC 404:2022

STANDARD FOR SAFETY

Pressure-Indicating Gauges for Compressed Gas Service

Approved American National Standard
ANSI

ANSI/UL 404-2022

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UL Standard for Safety for Pressure-Indicating Gauges for Compressed Gas Service, ANSI/CAN/UL/ULC 404

Ninth Edition, Dated October 21, 2022

SUMMARY OF TOPICS

This new edition of UL/ULC 404 merges relevant content from ULC/ORD-C404 with ANSI/UL 404 to create a single, joint standard applicable in both the USA and Canada.

The new requirements are substantially in accordance with Proposal(s) on this subject dated April 29, 2022.

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ANSI/CAN/UL/ULC 404:2022

Standard for Pressure-Indicating Gauges for Compressed Gas Service

The first and second editions were titled High-Pressure Gas Gauges and the first edition was numbered UL 252(b).

The third, fourth, fifth, sixth, seventh, and eighth editions were titled Gauges, Indicating Pressure, for Compressed Gas Service.

First Edition – March, 1948
Second Edition – June, 1953
Third Edition – May, 1973
Fourth Edition – July, 1979
Fifth Edition – June, 1993
Sixth Edition – September, 1997
Seventh Edition – January, 2005
Eighth Edition – February, 2015

Ninth Edition

October 21, 2022

This ANSI/UL Standard for Safety consists of the Ninth Edition.

The most recent designation of ANSI/UL 404 as an American National Standard (ANSI) occurred on October 21, 2022. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

The Department of Defense (DoD) has adopted UL 404 on October 3, 1994. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

This standard has been designated as a National Standard of Canada (NSC) on October 21, 2022.

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Preface

This is the Ninth Edition of ANSI/CAN/UL/ULC 404, Standard for Pressure-Indicating Gauges for Compressed Gas Service.

UL is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO). ULC Standards is accredited by the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

This Standard has been developed in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization.

This ANSI/CAN/UL/ULC 404 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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This Edition of the Standard has been formally approved by the UL Standards Technical Panel (STP) on Compressed Gas Regulators and Accessories, STP 252.

This list represents the STP 252 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

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STP 252 Membership

Name	Represent	Interest Category	Region
Bob Carney	Western/Scott Fetzer Co.	Producer	USA
David Gailey	Lincoln Electric CO Harris Calorific	Producer	USA
Edgar Wolff-Klammer	UL Solutions	Testing and Standards Org.	USA
James Petersen	Petersen Engineering	General Interest	USA
Jason Keister	NASA Glenn Research Center	Government	USA
Marcel Mandin	Mutual Propane LTD	Commercial / Industrial User	Canada
Miles Mailvaganam	Standards Individuals	General Interest	Canada
Peter Fraley	Wika Instrument Corp.	Producer	USA
Peter Layson	Applications Engineering Group Inc.	General Interest	USA
Richard Johnson	Thomas Associates	General Interest	USA
Jeff Prusko	UL Standards & Engagement	Project Manager – Non-voting	USA
John Wade	ULC Standards	STP Chair – Non-Voting	Canada

International Classification for Standards (ICS): 17.100, 75.180.99

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This Standard is intended to be used for conformity assessment.

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

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INTRODUCTION

1 Scope

1.1 This Standard covers minimum requirements for indicating pressure gauges of the elastic element type.

1.2 Indicating pressure gauges include:

a) High pressure gauges employed in the high-pressure side of regulators or reducing valves used on compressed gas containers or cylinders of oxygen, hydrogen, nitrogen, and other gases usually have pressure ranges of 0 – 500, 0 – 1 000, 0 – 1 500, 0 – 2 000, 0 – 3 000, 0 – 4 000, 0 – 5 000, or 0 – 6 000 pounds per square inch (psi) (The related metric gauge ranges are approximately 0 – 3.4, 0 – 6.89, 0 – 10.34, 0 – 13.78, 0 – 20.68, 0 – 27.56, 0 – 34.47, or 0 – 41.36 MPa); and

b) Differential pressure gauges employed to measure the difference between two pressures with a maximum inlet pressure of 1 000 psig (6.89 MPa).

1.3 For requirements for gauges employed in the low side of regulators with ranges of 1 000 psig (6.89 MPa) or less, refer to the Standard for Compressed Gas Regulator Accessories, ANSI/CAN/UL/ULC 252A.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this standard shall comply with the requirements for that component.

2.2 A component is not required to comply with a specific requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or

b) Is superseded by a requirement in this standard.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

4 Reference Publications

4.1 The documents shown below are referenced in the text of this Standard. Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

ANSI/AIAA G-095A, *Guide to Safety of Hydrogen and Hydrogen Systems*

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