CSA Group

CSA/ANSI LC 6:08
(reaffirmed 2018)

Natural gas operated diaphragm pumps

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CSA Group

First Edition - 2008

The standards set forth herein apply to the first edition of the Standard for Natural Gas Operated Diaphragm Pumps. Following their preparation by the supervising Technical Committee, they were accepted by the American National Standards Institute (ANSI), and subsequently approved.

Approved
August 25, 2008
American National Standards Institute, Inc.

Standard Developer

CSA AMERICA INC.
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

Published - September 2008

American National Standards Insititute

The American National Standards Institute (ANSI), Inc. is the nationally recognized coordinator of voluntary standards development in the United States through which voluntary organizations, representing virtually every technical discipline and every facet of trade and commerce, organized labor and consumer interests, establish and improve the some 10,000 national consensus standards currently approved as American National Standards.

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Responsibility of approving American National Standards rests with the

American National Standards Institute, Inc.
25 West 43rd Street, Fourth Floor
New York, NY
10036

Preface

This publication represents a basic standard for safe operation, substantial and durable construction, and acceptable performance of natural gas operated diaphragm pumps. It is the result of years of experience in the manufacture, testing, installation, maintenance, inspection and research on natural gas operated diaphragm pumps designed for the utilization of gas. There are risks of injury to persons inherent in some appliances that, if completely eliminated, would defeat the utility of the appliance. The provisions in this Standard are intended to reduce such risks while retaining the normal function of the appliance.

Nothing in this standard is to be considered in any way as indicating a measure of quality beyond compliance with the provisions it contains. It is designed to allow compliance of natural gas operated diaphragm pumps, the construction and performance of which may exceed the various provisions specified herein. In its preparation, full recognition has been given to possibilities of improvement through ingenuity of design. As progress takes place, revisions may become necessary. When they are believed desirable, recommendations should be forwarded to CSA America, Inc., 8501 East Pleasant Valley Road, Cleveland, Ohio 44131. A proposal form is provided in the back of this document.

Safe and satisfactory operation of natural gas operated diaphragm pumps depends to a great extent upon its proper installation, and it should be installed in accordance with the manufacturer's installation instructions, and local municipal building codes.

Users of this American National Standard are advised that the devices/products/activities within its scope may be subject to regulation at the Federal, state or local level. Users are strongly urged to investigate this possibility through appropriate channels. In the event of a conflict with this standard, the Federal, state or local regulation should be followed.

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EFFECTIVE DATE: An organization using this standard for product evaluation as a part of its certification program will normally establish the date by which all products certified by that organization should comply with this standard.

History Of The Development Of The Standard For Natural Gas Operated Diaphragm Pumps

(This History is informative and is not part of the standard.)

In 2001, CSA International developed CSA Requirement 2.01 for natural gas-operated diaphragm pumps, and was used for design certification testing of natural gas-operated diaphragm pumps by CSA International. In 2006, interest was indicated to develop a nationally recognized standard. CSA International relinquished its requirements to CSA America, Inc., to undertake the effort to develop a national standard. A working group of interested manufacturers was assembled to develop a standard based on the requirement.

In October 2006, CSA America informed the American National Standards Institute (ANSI) that it was undertaking the project of standards development for natural gas operated diaphragm pumps under its Committee Process. As work progressed, CSA America established a Technical Committee on Natural Gas Operated Diaphragm Pumps to oversee the development of the standard. The project was assigned the designation LC 6.

During its July 2007 meeting, the working group recommended to its Technical Committee that the draft Standard for Natural Gas Operated Diaphragm Pumps be distributed for review and comment.

During its August 2007 meeting, the Technical Committee accepted the recommendation of the working group and adopted the draft standard for distribution for review and comment. The draft standard was subsequently distributed for review and comment during November 2007.

At its May 2008 meeting, the Technical Committee considered comments received during the review and comment period and agreed to editorially revise the draft standard. The Technical Committee then adopted the revised draft standard for submittal to ANSI for approval.

This, the first edition of the Standard for Natural Gas Operated Diaphragm Pumps, was approved by the American National Standards Institute on August 25, 2008.

The following identifies the designation and year of the standard.

ANSI LC 6–2008

Natural Gas Diaphragm Pump Technical Committee

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NOTE

This standard contains SI (Metric) equivalents to the yard/pound quantities, the purpose being to allow the standard to be used in SI (Metric) units. (Standard for use of the International System of Units (SI): The Modern Metric System, IEEE/ASTM SI I0 or Metric Practice Guide, CAN/CSA Z234.1 are used as a guide in making metric conversion from yard/pound quantities.) If a value for a measurement and an equivalent value in other units, the first stated is to be regarded as the requirement. The given equivalent value may be approximate. If a value for a measurement and an equivalent value in other units, are both specified as a quoted marking requirement, the first stated unit, or both shall be provided.

American National Standard For Natural Gas Operated Diaphragm Pumps

Part I: Construction

1.1 Scope

1.1.1
This Standard applies to natural gas operated diaphragm pumps, herein after referred to as pumps, which are constructed entirely of new, unused parts and materials.

1.1.2
This Standard applies to pumps powered by pressurized natural gas, either wellhead or utility grade, pumping process fluids as specified by the manufacturer. (See Part IV, Definitions)

1.1.3
This Standard applies to pumps with a maximum rated operating gas pressure not exceeding 150 psi (10.342 Bar).

1.1.4
Pumps complying with the provisions of this Standard shall be considered as having an operating ambient temperature range of 32°F (0°C) to 125°F (51.5°C), unless a lower minimum allowable ambient temperature, or a higher maximum allowable ambient temperature, or both, are specified by the manufacturer, (see 2.1.2).

1.1.5
If a value for measurement as given in this Standard is followed by an equivalent value in other units, the first stated value is to be regarded as the specification.

1.1.6
All references to "psi"("Bar") throughout this Standard are to be considered gauge pressure, unless otherwise specified.

1.2 General

1.2.1
The construction of parts not covered by this Standard shall be in accordance with reasonable concepts of safety, substantiality and durability.

All specifications as to construction set forth herein may be satisfied by the construction actually prescribed or such other construction as will provide at least equivalent performance.

1.2.2
The mechanisms of pumps shall be protected by substantial enclosures so as to prevent interference with the safe operation of the pumps.