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Fourth edition
8 January 2009

AN INDUSTRY STANDARD FOR FLUID POWER

Fluid power systems and products –
Square head industrial cylinders –
Mounting dimensions

[Revision and redesignation of ANSI/(NFPA)T3.6.7 R2-1996 (R2004)]

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Foreword

At the 8 June 2005 joint meeting of NFPA/T3.4 and NFPA/T3.6, NFPA/T3.6 approved a motion to prepare a Title, Scope and Purpose (TSP) for the revision of ANSI/(NFPA)T3.6.7 R2-1996 (R2004). The TSP was approved by the NFPA Technical Board at its meeting on 11 August 2005, and then drafts of the document were discussed at subsequent project group meetings.

ANSI/(NFPA)T3.6.7 R3-200x was circulated for general review on 8 August 2007, which closed on 8 September 2007. The voting resulted in four approval votes, zero disapprovals, five abstentions, and no comments. At its 10 January 2008 meeting, the NFPA Technical Board approved a motion to circulate the document for simultaneous NFPA final and ANSI approval ballots.

Draft 2 was discussed at subsequent meetings, and on 5 November 2008, the document was circulated for simultaneous NFPA final and ANSI approval ballots, which closed on 20 December 2008. The NFPA ballot resulted in eight approval votes, one abstention, zero disapprovals and one editorial comment. The document was approved for publication by the NFPA Technical Board at its meeting on 8 January 2009.

As a result of a decision made by the NFPA Board of Directors at its meeting on 27 June 2009, NFPA discontinued its activities as an ANSI Accredited Standards Developer. Therefore, the document designation was changed to NFPA/T3.6.7 R3-2009.

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Introduction

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit.

One component of such systems is the fluid power cylinder. This is a device that converts fluid power into linear mechanical force and motion. It consists of a movable element, such as a piston and piston rod, plunger or ram, operating within a cylindrical bore.

A square head cylinder is a specific design initially developed for industrial (inplant) use. It is manufactured and sold as a dimensionally interchangeable component by many suppliers. Recognition of this dimensional interchangeability is one of the purposes of this document.

Fluid power systems and products – Square head industrial cylinders – Mounting dimensions

1 Scope

- 1.1 This standard establishes mounting dimensions for dimensionally-interchangeable heavy-duty hydraulic, light-duty hydraulic and pneumatic square head industrial fluid power cylinders.
- 1.2 This standard is intended to:
- a) promote dimensional interchangeability by establishing uniform mounting dimensions for various types of cylinder mountings; and
 - b) allow manufacturers freedom of design in cylinders without restricting the advancement of the art while providing basic guidelines necessary for product dimensional interchangeability.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this ANSI document. At the time of this publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this ANSI document are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below. NFPA maintains registers of currently valid NFPA standards.

ANSI/B93.3 (latest edition), *Fluid power systems and products – Cylinder bores and piston rod diameters – Inch series*.

ISO 5598 (latest edition), *Fluid power systems and components – Vocabulary*

ISO 6099 (latest edition), *Fluid power systems and components – Identification code for mounting dimensions and mounting types*.

ASME B1.1-2003, *Unified Inch Screw Threads (UN and UNR Thread Form)*

3 Terms and definitions

For the purposes of this recommended standard, the terms and definitions given in ISO 5598 apply.

4 Units

Customary U.S. units are used in this document.

NOTE The NFPA Cylinder Product Section NFPA/T3.6 chose not to include metric units in this document because related ISO standards (ISO 6020-2 and ISO 15552) for similar products provide metric mounting dimensions.