



NFPA Recommended Standard
NFPA/T3.6.8 R3-2010 (R2015)
Fourth edition
3 August 2010

AN INDUSTRY STANDARD FOR FLUID POWER

**Fluid power systems – Cylinders –
Dimensions for accessories for cataloged
square head industrial types**

(Revision of NFPA/T3.6.8 R2-2007)

Descriptors: dimensions mounting accessories cylinder pressure rating square head fluid power square tie rod

published by

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Foreword

This Foreword is not part of National Fluid Power Association (NFPA) Recommended Standard *Fluid power systems – Cylinders – Dimensions for accessories for cataloged square head industrial types*, NFPA/T3.6.8 R3-2010.

At the 10 June 2008 meeting of NFPA/T3.6, a decision was made to revise ANSI/(NFPA)T3.6.8 R2-2007 because it contained the same tolerances as NFPA/T3.6.7 R3-2009, which had recently been revised. A Title, Scope and Purpose (TSP) for the project was approved by NFPA/T3.6 via the online forums on 13 August 2008, and then by the NFPA Technical Board at its meeting on 14 August 2008.

NFPA/T3.6 discussed draft no. 1 of the document at its meetings on 17 September 2008 and 10 February 2009 and incorporated a number of changes. At the 12 May 2009 meeting, NFPA/T3.6 approved a motion to circulate the updated draft no. 2 for general review.

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/T3.6.8 R3-20xx, and the document was circulated for general review and closed on 19 December 2009.

The voting resulted in seven approval votes, zero disapprovals and one abstention. The comments were satisfactorily resolved. A motion was approved by NFPA/T3.6 via the online forums on 26 January 2010 to request permission from the Technical Board to circulate the document for final ballot. At its teleconference meeting on 6 May 2010, the Technical Board approved a motion to circulate the document for final ballot.

The document was circulated for final ballot on 7 May 2010. The voting resulted in eight approval votes, zero disapprovals and one abstention, with two editorial comments. On 14 July 2010, a motion was approved by NFPA/T3.6 via the online forums to ask the NFPA Technical Board for permission to publish the document. The Technical Board gave its permission to publish via the online forums on 3 August 2010.

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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.

The square head cylinder is a specific design initially developed for industrial (in-plant) use. Dimensions for these cylinders are standardized in NFPA/T3.6.7 R3. The square head cylinder is manufactured and sold as an interchangeable component by a majority of suppliers. In addition to the basic cylinder, many of the mounting accessories are also considered to be interchangeable. Recognition of this interchangeability is one of the purposes of this document.

Fluid power systems – Cylinders – Dimensions for accessories for cataloged square head industrial types

1 Scope

1.1 This standard includes

- nominal dimensions of accessories for cataloged industrial square head fluid power cylinders. Such accessories include pivot pins, plain rod eyes, rod clevises, eye brackets, split collars and weld plates [basic cylinder dimensions are standardized in NFPA/T3.6.7 R3];
- dimensional identification code for envelope and mounting dimensions not already set forth in ISO 6099;
- dimensions for simplification of variety and dimensional interchangeability purposes only. This document is in no way intended to imply suitability of dimensioned components for any particular service or application. A method to determine load ratings will be handled through subsequent documents;
- dimensions for mounting accessories that will have a load rating compatible to that of the cylinder pressure rating for which the accessory is intended.

1.2 This standard

- simplifies varieties of sizes and configurations;
- promotes accessory interchangeability by establishing uniform mounting dimensions;
- allows manufacturers freedom of design and still provides basic guidelines necessary for component interchangeability.

1.3 This standard provides

- common language for dimension identification;
- a simplified pattern for dimension presentation.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this NFPA document. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this NFPA document are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referenced applies. NFPA maintains registers of currently valid NFPA Standards. Standards development organization contact information and links can be found on the NFPA website (www.nfpa.com).

NFPA/T3.6.7 (latest edition), *Fluid power systems and products – Square head industrial cylinders – Mounting dimensions*.