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Ball screws—Part 1: Vocabulary and designation

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Machine Accessory Association (JMAA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

Consequently **JIS B 1192:2013** has been withdrawn and partially replaced with this Standard.

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JIS B 1192 series consists of the following parts under the general title “*Ball screws*”:

JIS B 1192-1 *Part 1: Vocabulary and designation*

JIS B 1192-2 *Part 2: Nominal diameters and nominal leads*

JIS B 1192-3 *Part 3: Acceptance conditions and test method*

JIS B 1192-4 *Part 4: Static axial rigidity*

JIS B 1192-5 *Part 5: Static and dynamic axial load ratings and operational life*

Ball screws—Part 1: Vocabulary and designation

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 3408-1:2006**, Edition 2 by adding terms and definitions in line with actual situations in Japan and with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies vocabularies and designations for ball screws.

NOTE The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 3408-1:2006 *Ball screws—Part 1: Vocabulary and designation* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are **IDT** (identical), **MOD** (modified), and **NEQ** (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

2.1 Terms and definitions for components of ball screws

2.1.1 ball screw

2.1.1.1

ball screw

machine part comprising a ball screw shaft and ball nut(s) which function through balls.

Ball screws are capable of converting rotary motion to linear motion and vice versa.

NOTE 1 The rolling elements of the ball screw are balls.

NOTE 2 Depending on the application, ball screws are designed either with backlash (see **2.2.2.7**) or without backlash (preloaded).

NOTE 3 Six standard tolerance grades 0, 1, 3, 5, 7 and 10 are available. Usually, standard tolerance grades 0 to 5 are preloaded, and grades 7 and 10 are not preloaded.

2.1.1.2

positioning ball screw, type P

ball screw used for precision positioning which enables the indirect measurement of axial travel from the angle of rotation and the lead, without backlash (preloaded)