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**Instruments for the assessment of
departure from roundness—
Measurement of variations in radius**

ICS 17.040.30

Descriptors : roundness measurement, measuring instruments

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently JIS B 7451 : 1991 is replaced with JIS B 7451 : 1997.

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Instruments for the assessment of departure from roundness —Measurement of variations in radius

Introduction This Japanese Industrial Standard is based on **ISO 4291**, *Methods for the assessment of departure from roundness—Measurement of variations in radius* published in 1985 as the 1st edition and **ISO 6318**, *Measurement of roundness—Terms, definitions and parameters of roundness* without changing the technical contents as for the corresponding parts to the International Standards and adding the contents not specified in the corresponding International Standards (Tolerance on rotational accuracy). Moreover, the items (mechanism of lading stand, magnification, stability of measuring instrument, inspection and marking) which are not included in the corresponding International Standards are added.

1 Scope This Japanese Industrial Standard specifies the contact type instruments for the assessment of departure from roundness (hereafter referred to as “measuring instrument”) for the purpose of measuring the variations in radius in peripheral direction of circular shape of workpiece by means of contact detector.

Remarks : Methods for the assessment of roundness by means of the roundness measuring instruments not based on the body of this Standard are shown in Annex 1 (normative).

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The latest editions of them apply.

JIS B 0621 *Definitions and designations of geometrical deviations*

JIS B 7430 *Optical flats*

JIS B 7506 *Gauge blocks*

JIS Z 8103 *Glossary of terms used in instrumentation*

3 Definitions and symbols For the purpose of this Standard, the definitions given in **JIS B 0621** and **JIS Z 8103**, and the following definitions apply.

The symbol is given in the parentheses following each term.

- a) **detector revolving type** Type of measuring instrument having such mechanism that the lading-goods stand is fixed and the detector revolves (see Attached Fig. 1).
- b) **lading-good stand rotating type** Type of measuring instrument having such mechanism that the detector is fixed and the lading-goods table rotates (see Attached Fig. 2).
- c) **detector** Device consisting of the mechanism detecting the measured roundness curve and the transducer.
- d) **stylus** A part of detector which touches direct the workpiece to be measured.