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Rolling bearings — Tapered roller bearings — Designation system

Roulements — Roulements à rouleaux coniques — Système de désignation

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Foreword

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ISO 10317 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 9, *Tapered roller bearings*.

This second edition cancels and replaces the first edition (ISO 10317:1992), which has been technically revised.

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Rolling bearings — Tapered roller bearings — Designation system

1 Scope

This International Standard establishes a system for the designation of metric size tapered roller bearings produced in accordance with ISO 355.

The system covers designations for single-row bearings, double-row bearings, and bearings with flanged outer rings. It also establishes designations for separate inner subunits (inner ring, tapered rollers and cage) and outer rings of such bearings.

This International Standard does not apply to bearings or inner subunits or outer rings which in any respect deviate from ISO 355.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 355:2007, *Rolling bearings —Tapered roller bearings — Boundary dimensions and series designations*

ISO 492, *Rolling bearings — Radial bearings — Tolerances*

ISO 5593, *Rolling bearings — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5593 apply.

4 Designation structure

4.1 Principles of the designation system

The designation structure is a system of groups of alphabetical and/or numerical symbols based on the standard pattern shown in Figure 1. Each group is called a section. The symbols used in the different sections are as specified in Clauses 5 to 10.

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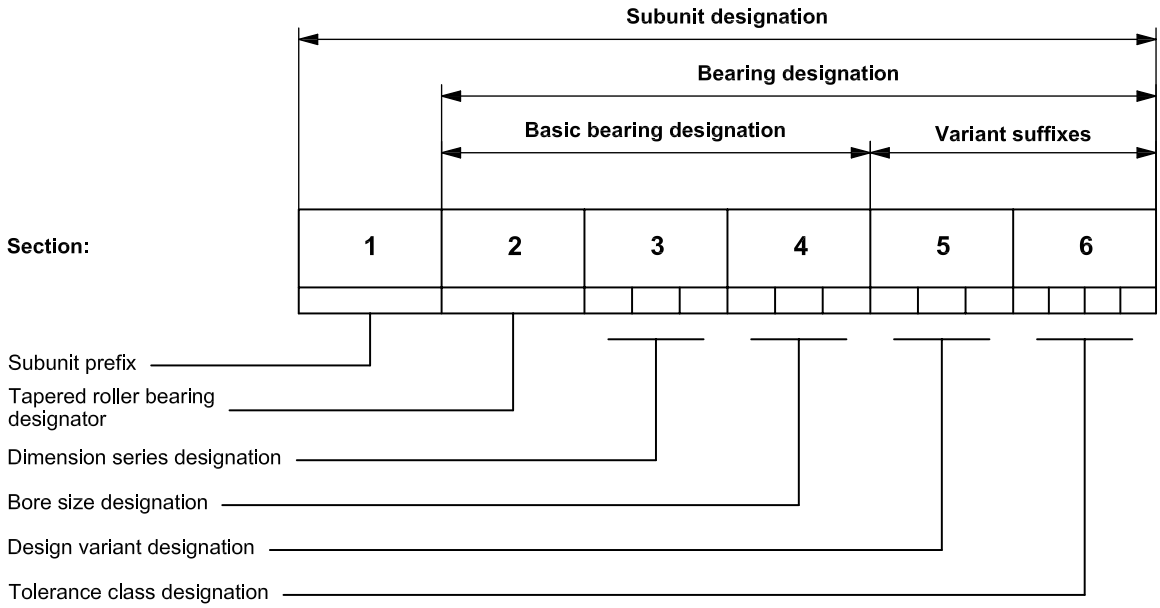


Figure 1 — Designation structure

4.2 Bearing designations

The designation of a complete single-row bearing comprises sections 2 to 4 (basic bearing designation), plus sections 5 and/or 6 (variant suffixes) as appropriate.

The designation of a complete double-row bearing comprises sections 2 to 5, plus section 6, if appropriate.

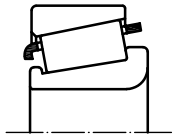
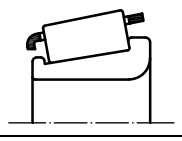
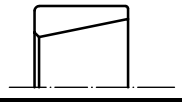
Examples of bearing and subunit designations are given in Clause 11.

4.3 Subunit designations

The designation of a separate subunit (an inner subunit or an outer ring) comprises a subunit prefix (section 1) plus the designation of the complete bearing (see Table 1).

5 Subunit prefix (section 1)

Table 1 — Subunit prefix

Symbol	Designation item	
None	Complete bearing	
R	Inner subunit (inner ring, tapered rollers and cage)	
L	Outer ring	

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6 Tapered roller bearing designator (section 2)

The letter T is used in the first position of the basic bearing designation (i.e. preceding the dimension series and bore size designations) to distinguish metric size tapered roller bearings from other bearing types. Its use is optional.

7 Dimension series designation (section 3)

Each bearing is assigned to a dimension series, designated by three symbols as explained in ISO 355:2007, Clause 5. The relevant symbols to be used in section 3 are specified in the last column of the boundary dimension tables of ISO 355:2007, Tables 4 to 12.

8 Bore size designation (section 4)

The bore size designation consists of three numerals, indicating nominal bearing bore diameter in millimetres. For bearings with bore diameters less than 100 mm, a zero is used as the first numeral.

If, in future, bearings with a bore diameter of 1 000 mm or more are included in ISO 355, section 4 may be expanded to four numerals.

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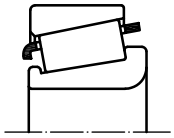
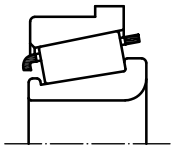
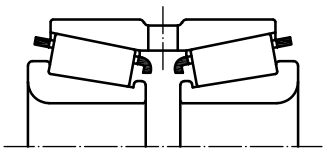
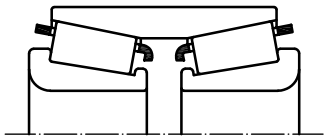
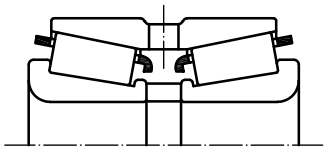
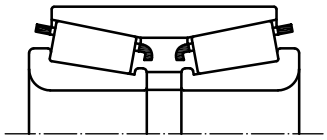
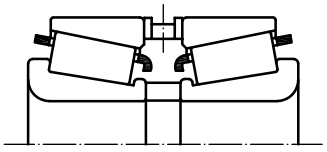
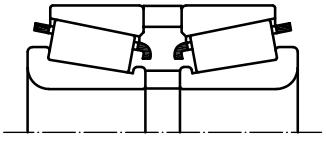
9 Design variant designation (section 5)

This section, which consists of one, two or three letters, is used to designate variants of the basic single-row bearing, as specified in ISO 355:2007, 6.3 and 6.4 (see Table 2).

Table 2 — Design variant designation

Symbol	Designated item	
None	Single-row bearing	
R	Single-row bearing with flanged outer ring	
DZ	Double-row bearing comprising two single inner subunits and a double outer ring with lubrication groove and holes	
DZU	Double-row bearing comprising two single inner subunits and a double outer ring without lubrication groove and/or holes	
D[a]	Double-row bearing comprising two single inner subunits, an inner ring spacer and a double outer ring with lubrication groove and holes	
DU[a]	Double-row bearing comprising two single inner subunits, an inner ring spacer and a double outer ring without lubrication groove and/or holes	
DB	Double-row bearing comprising two single-row bearings, an inner ring spacer and an outer ring spacer with lubrication groove and holes, back-to-back arrangement	
DBU	Double-row bearing comprising two single-row bearings, an inner ring spacer and an outer ring spacer without lubrication groove and/or holes, back-to-back arrangement	

[a] To be used with prefix L for a separate double outer ring.

10 Tolerance class designation (section 6)

This section, which consists of up to four symbols, is used to designate a standardized tolerance class other than the normal class (see Table 3).

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Table 3 — Tolerance class designation

Symbol[a]	Tolerance class to ISO 492
None	Normal class
/P6X	Class 6X
/P5	Class 5
/P4	Class 4
/P2	Class 2

[a] "/" may be omitted.

11 Examples

The following examples refer to bearings of dimension series 3CC, with a bore diameter of 20 mm, and manufactured in accordance with ISO 355.

a) Single-row bearing — T3CC020
   Normal tolerance class

b) Single-row bearing — T3CC020/P6X
   Tolerance class 6X

c) Double-row bearing comprising two single inner subunits, an inner ring spacer and a double outer ring with lubrication groove and holes — T3CC020D
   Normal tolerance class

d) Double-row bearing comprising two single inner subunits and a double outer ring with lubrication groove and holes — T3CC020DZ/P5
   Tolerance class 5

e) Single-row bearing with flanged outer ring — T3CC020R
   Normal tolerance class

f) Separate single-row bearing inner subunit — RT3CC020
   Normal tolerance class

g) Separate single-row bearing outer ring — LT3CC020
   Normal tolerance class

h) Separate single-row bearing flanged outer ring — LT3CC020R
   Normal tolerance class

i) Separate double-row bearing double outer ring with lubrication groove and holes — LT3CC020D
   Normal tolerance class

j) Separate double-row bearing double outer ring without lubrication groove and/or holes — LT3CC020DU
   Normal tolerance class

NOTE The tapered roller bearing designator T is optional.

12 Marking

The marking of bearings or bearing parts with designations in accordance with this International Standard is optional.

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