

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS B 1551 : 2009

(JBIA)

Rolling bearings — Plummer block housings

ICS 21.100.20

Reference number : JIS B 1551 : 2009 (E)

PROTECTED BY COPYRIGHT

B 1551 : 2009

Date of Establishment: 1952-03-08

Data of Revision: 2009-03-20

Date of Public Notice in Official Gazette: 2009-03-23

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Machine Elements

JIS B 1551 : 2009, First English edition published in 2009-11

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

PROTECTED BY COPYRIGHT

Contents

		Page
Introduction		1
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Quantity symbols	2
5	Types	5
6	Designations and dimensions	5
7	Tolerances	5
8	Appearance	5
9	Painting	5
10	Materials	6
11	Measuring methods	6
12	Inspection	6
13	Packaging	6
14	Marking	7
14.1	Marking on products	7
14.2	Marking on package	7
Annex JA (informative) Stabilizing rings		24
Annex JB (informative) Comparison table between JIS and corresponding International Standard		26

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Research Institute for the Japan Bearing Industrial Association (JBIA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS B 1551 : 1995** is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Rolling bearings — Plummer block housings

Introduction

This Japanese Industrial Standard has been prepared based on the second edition of **ISO 113** published in 1999 without modifying the technical contents for the corresponding parts, but adding some specification contents unique to Japanese Industrial Standard that are not given in the corresponding International Standard.

The portions with continuous sidelines or dotted underlines, Annex JA and Annex JB are the matters that are not given in the corresponding International Standard. A list of modifications with explanations is given in Annex JB.

1 Scope

This Standard specifies split plummer block housings (hereafter referred to as “housings”) intended for use in the following self-aligning roller bearings and self-aligning ball bearings in diameter series specified in **JIS B 1512** (hereafter referred to as “bearings”).

- two bolt plummer block housings for rolling bearings in diameter series 0, 1, 2 and 3
- four bolt plummer block housings for rolling bearings in diameter series 0, 1, 2 and 3

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

ISO 113 : 1999 *Rolling bearings — Plummer block housings — Boundary dimensions* (MOD)

The 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**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0104 *Rolling bearings — Vocabulary*

JIS B 0124 *Rolling bearings — Symbols for quantities*

JIS B 1512 *Rolling bearings — Boundary dimensions*

NOTE : Corresponding International Standard : **ISO 15 : 1998 *Rolling bearings — Radial bearings — Boundary dimensions, general plan*** (MOD)

JIS G 4051 Carbon steels for machine structural use

JIS G 5101 Carbon steel castings

JIS G 5501 Grey iron castings

JIS G 5502 Spheroidal graphite iron castings

3 Terms and definitions

For the purposes of this Standard, the definitions given in JIS B 0104 and the following definitions apply.

3.1 two bolt plummer block housings

housings with two cap bolts and two bolt holes in the base

3.2 four bolt plummer block housings

housings with four cap bolts and four bolt holes in the base

3.3 bore diameter

the diameter of a hole through which the shaft passes, provided on the both sides of housing

NOTE : Housing provided with the same bore diameters on its both sides is called "equal-bore diameter housing", and with different bore diameters, "different-bore diameter housing".

3.4 centre height

the distance from the bottom face of the housing to the centre axis of the bearing seating

4 Quantity symbols

The quantity symbols used in this Standard shall be in accordance with JIS B 0124 and the following.

The quantity symbols shown in figures 1 to 3 and table 2 and values shown in tables 3 to 7 are nominal dimensions unless otherwise specified.

A : overall width of housing

A_1 : base width of housing

C_a : width of bearing seating

C_b : width of bearing seating (fixed side)

D_a : bore diameter of bearing seating

D_{as} : single bore diameter of bearing seating

d_a : applicable shaft diameter
 d_b : applicable large diameter of stepped shaft
 d_c : applicable small diameter of stepped shaft
 G : nominal designation of screw threads of mounting bolt
 H : nominal centre height
 H_s : actual centre height
 H_1 : height of feet
 H_2 : height of housing
 J : centre distance of mounting bolt holes (length direction)
 J_1 : centre distance of mounting bolt holes (width direction)
 L : base length of housing
 N : width of mounting bolt hole
 N_1 : length of mounting bolt hole
 Δ_{Das} : deviation of the single bore diameter of bearing seating
 Δ_{Hs} : deviation of actual centre height

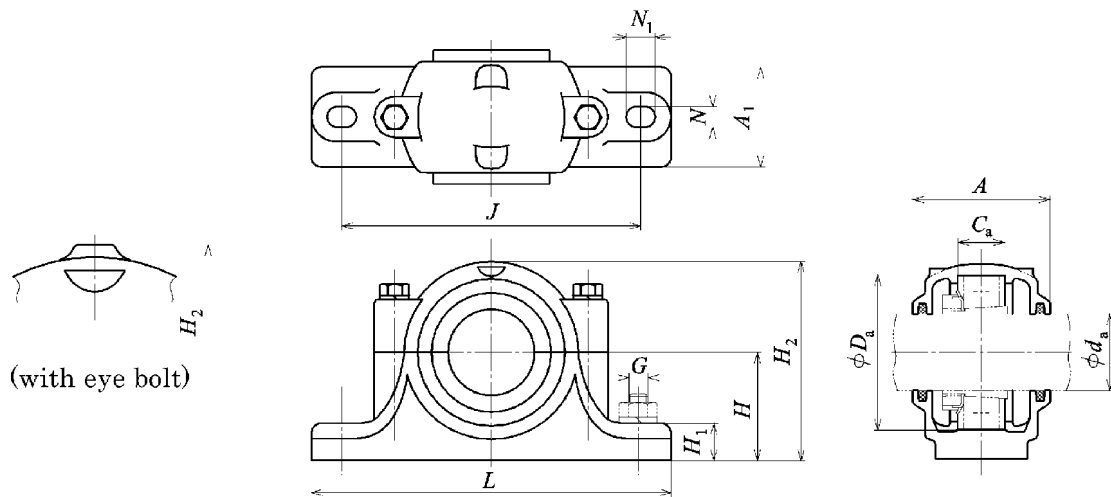


Figure 1 Two bolt plummer block housing (housing series : SN5, SN6, SN30 and SN31)

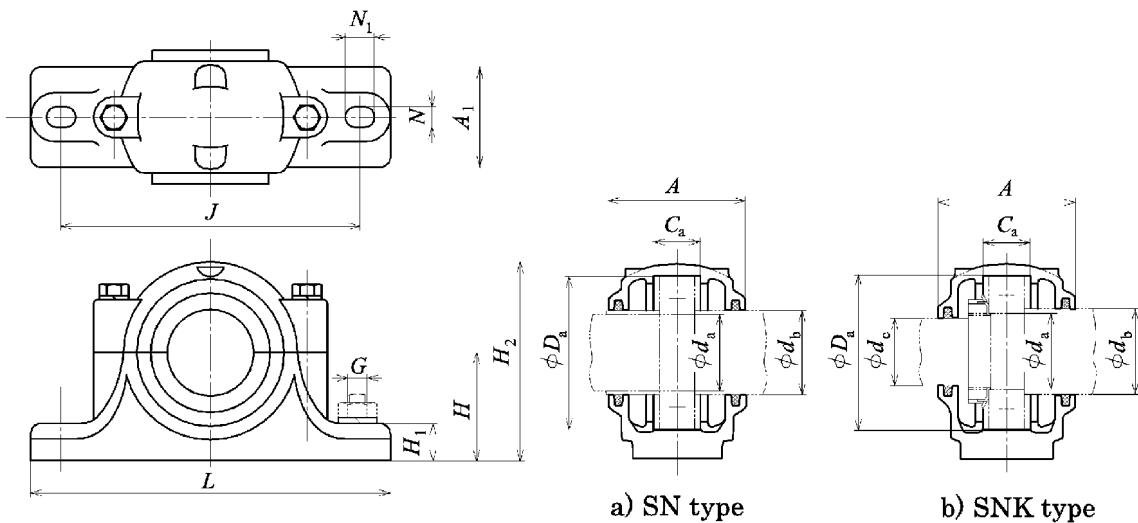


Figure 2 Two bolt plummer block housing (housing series : SN2, SN3, SNK2 and SNK3)

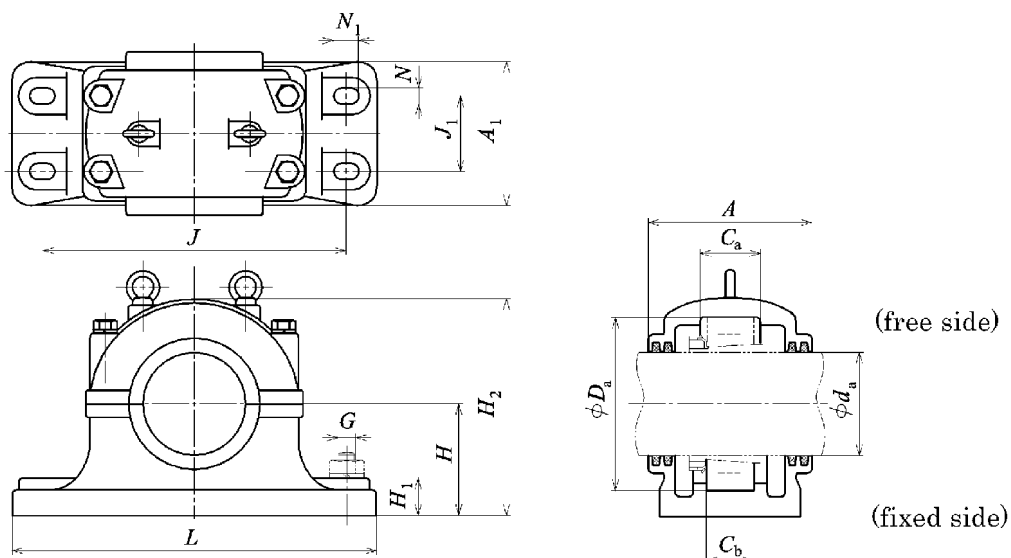


Figure 3 Four bolt plummer block housing (housing series : SD5, SD6, SD30 and SD31)

5 Types

The types of housings specified in this Standard shall be in accordance with table 1.

Figure 1 Types of housings

Type		Housing series	Bearing series	Construction and shape		Shape diagram	Dimension table
				Bore diameter	Applicable bearing		
Two bolt type	SN type	SN 5	2	Equal bore diameters	Tapered hole	Figure 1	Table 3
		SN 6	3				
		SN 30	0				
		SN 31	1				
	SNK type	SN 2	2	Equal bore diameters	Cylindrical hole	Figure 2	Table 4
		SN 3	3	Different bore diameters			
		SNK 2	2				
Four bolt type	SD type	SNK 3	3	Equal bore diameters	Tapered hole	Figure 3	Table 5
		SD 5	2				
		SD 6	3				
		SD 30	0				
		SD 31	1				

6 Designations and dimensions

The designations and dimensions of housings shall be as shown in tables 3 to 5.

Further, for the designations and dimensions of stabilizing rings, see Annex JA.

NOTE 1 The dimensions specified as “Max.” or “Min.” in tables 3 to 5 indicate the maximum value or minimum value permitted of nominal dimensions and permissible actual dimensions.

NOTE 2 Supplementary symbols may be attached to the designation as required.

7 Tolerances

The tolerances of housings shall be as shown in tables 6 and 7.

8 Appearance

The surface of housings shall be free from cracks, flaws, burrs, cavities or other harmful defects.

9 Painting

The outside surface of the housing shall be painted. Painting may be omitted on the machined surface.

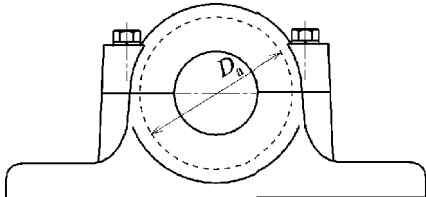
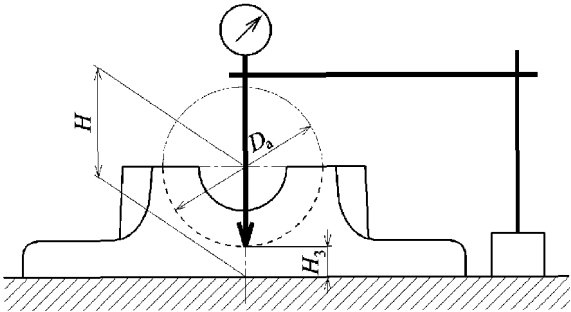
10 Materials

The materials of the housing shall be FC200 of JIS G 5501, FCD450 of JIS G 5502, SC450 of JIS G 5101 or the castings having at least equal strength to these. Further S35C of JIS G 4051 or the forgings having at least equal strength to this shall be used.

11 Measuring methods

The measuring methods of the bore diameter of the bearing seating and the centre height shall be in accordance with table 2.

Table 2 Measuring methods of bore diameter of bearing seating and centre height

Measuring item	Measuring method	
Bore diameter of bearing seating	Fasten the clamping bolts of the housing and obtain the single bore diameter D_{as} of bearing seating using a two point measuring instrument.	
Centre height	Place the lower part body of housing on a plane, and measure the actual dimension H_{3s} between the lowest part of the bearing seating and the plane using a length measuring instrument. The actual centre height H_s shall be calculated by the following formula from this actual dimension H_{3s} and the single bore diameter D_{as} . $H_s = D_{as}/2 + H_{3s}$	

12 Inspection

The inspection of housings shall be carried out on the dimensions, tolerances, appearance and painting, and the results shall conform to the requirements of clauses 6 to 9.

13 Packaging

The housing shall be packaged after the rust preventive treatment with grease, etc. has been applied to the machined surfaces and the inside.

14 Marking

14.1 Marking on products

The housing shall be marked with the designation and manufacturer's name (or its abbreviation).

14.2 Marking on package

The package of the housing shall be marked with the designation, quantity, manufacturer's name (or its abbreviation) and year and month of manufacture (or their abbreviation). However, in the case of one piece package, the quantity may be omitted.