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शीर्ष की अधिकतम चौड़ाई
(पहला पुनरीक्षण)

**Assembly Tools for Screws and
Nuts — Open-Ended Wrenches, Box
Wrenches and Combination
Wrenches — Maximum Widths of
Heads**
(First Revision)

ICS 25.140.30

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NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical to ISO 3318 : 2016 'Assembly tools for screws and nuts — Open-ended wrenches, box wrenches and combination wrenches — Maximum widths of heads' issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on recommendation of the Hand Tools Sectional Committee and approval of the Production and General Engineering Division Council.

This standard was first published in 2009. This revision of this standard has been undertaken to align it with the latest version of ISO 3318.


The major changes have been incorporated in this revision are as follows:

- a) Sizes covered in Table 1 have been revised and nominal widths across flats not covered by IS 9519 have been added; and
- b) The scope and title have been changed to cover single-headed wrenches also.

The text of ISO standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'; and
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is given below along with its degree of equivalence for the edition indicated.

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 691 Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use	IS 2027 : 2023 Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use (<i>fourth revision</i>)	Technically Equivalent 

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Contents

Page

1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Dimensions	1
	Bibliography	4

Indian Standard

ASSEMBLY TOOLS FOR SCREWS AND NUTS — OPEN-ENDED WRENCHES, BOX WRENCHES AND COMBINATION WRENCHES — MAXIMUM WIDTHS OF HEADS

(*First Revision*)

1 Scope

This document specifies the maximum outside head dimensions for open-ended wrenches, box wrenches and combination wrenches.

NOTE 1 The wrenches covered by this document are the ones identified in ISO 1703:2005 under reference nos. 1 1 01 02 0, 1 1 01 05 0, 1 1 01 06 0, 1 1 02 03 0, 1 1 02 04 0, 1 1 02 05 0, 1 1 02 06 0, 1 1 02 01 0, 1 1 02 02 0 and 1 1 02 08 0.

NOTE 2 Box wrenches can also be designated as ring wrenches.

This document does not cover technical specifications for these products. Technical specifications are given in ISO 1711-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 691, *Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Dimensions

See [Figures 1](#) and [2](#) and [Table 1](#) for the dimensions.

The drawings are schematic and are not intended to specify a given design; only the dimensions given shall be complied with.

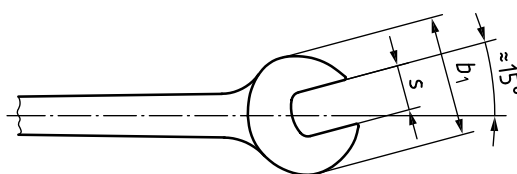


Figure 1 — Open-end

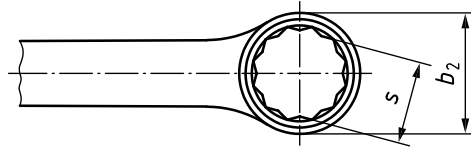


Figure 2 — Box end

Table 1 — Maximum outside head dimensions

Nominal width across flats s^a	b_1^b mm max.	b_2^c mm max.
3,2	14	7
4	15	8
5	18	10
5,5	19	10,5
6 ^d	20	11,5
7	22	12,5
8	24	14
9 ^d	25	16
10	28	17
11	30	18,5
12 ^d	31	20
13	34	21,5
14 ^d	36	23
15	39	24,5
16	41	26
17 ^d	42	27
18	45	29
19 ^d	47	31
20	49	31,5
21	51	33,5
22 ^d	53	35
23	55	36,5
24	57	38
25 ^d	59	39,5
27	64	42,5
30	70	47
32 ^d	74	50
34	78	53
36	83	56

a Tolerances in accordance with ISO 691.
b $b_{1\max} \approx 2,1 s + 7 s$.
c $b_{2\max} \approx 1,5 s + 2 s$.
d Nominal width across flats not covered by ISO 272.

Table 1 (continued)

Nominal width across flats s^a	b_1^b mm max.	b_2^c mm max.
41	93	63,5
46	104	71
50	112	77
55	123	84,5
60	133	92
65	140	102
<p>a Tolerances in accordance with ISO 691.</p> <p>b $b_{1\max} \approx 2,1 s + 7 s$.</p> <p>c $b_{2\max} \approx 1,5 s + 2 s$.</p> <p>d Nominal width across flats not covered by ISO 272.</p>		

Bibliography

- [1] ISO 272, *Fasteners — Hexagon products — Widths across flats*
- [2] ISO 1703:2005, *Assembly tools for screws and nuts — Designation and nomenclature*
- [3] ISO 1711-1, *Assembly tools for screws and nuts — Technical specifications — Part 1: Hand-operated wrenches and sockets*

NATIONAL ANNEX A 

(National Foreword)

A-1 BIS Certification Marking

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations made thereunder. The details of conditions under which the license for use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessments schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulation framed thereunder, and the products may be marked with the Standard Mark.

Bureau of Indian Standards

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