
**Assembly tools for screws and nuts —
Open-ended wrenches, box wrenches
and combination wrenches —
Maximum widths of heads**

*Outils de manœuvre pour vis et écrous — Clés à fourche, clés
polygonales et clés mixtes — Largeurs maximales d'encombrement
des têtes*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This fifth edition cancels and replaces the fourth edition (ISO 3318:2009), which has been technically revised with the following changes:

- a) revision of sizes covered in [Table 1](#), with the addition of nominal widths across flats not covered by ISO 272;
- b) the scope and title have been changed to also cover single-headed wrenches;
- c) deletion of Clause 4 "Technical specifications", as these are given in ISO 1711-1.

Assembly tools for screws and nuts — Open-ended wrenches, box wrenches and combination wrenches — Maximum widths of heads

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*
ISO 3318:2016
https://standards.iteh.ai/catalog/standards/sist/90e01633-e83a-411e-84f5-1bc8bc53939a/iso-3318-2016

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.

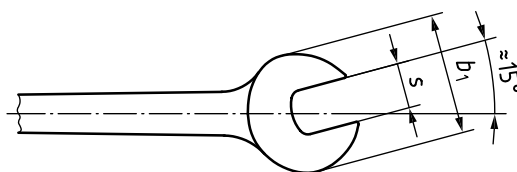


Figure 1 — Open-end

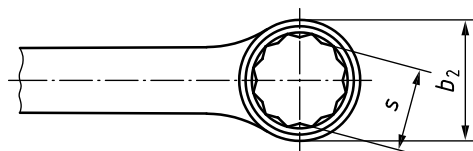


Figure 2 — Box end

Table 1 — Maximum outside head dimensions

Nominal width across flats <i>s</i> ^a	<i>b</i> ₁ ^b mm max.	<i>b</i> 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 $b_{1max} \approx 2,1 s + 7 s$.
^c $b_{2max} \approx 1,5 s + 2 s$.
^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>		

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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*

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