
**Assembly tools for screws and nuts —
Adjustable wrenches**

Outils de manoeuvre pour vis et écrous — Clés à molette

STANDARDSISO.COM : Click to view the full PDF of ISO 6787:2018



STANDARDSISO.COM : Click to view the full PDF of ISO 6787:2018



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Dimensions	1
5 Technical specifications	1
5.1 Clearance of adjustable jaw	1
5.2 Hardness	3
5.3 Torque test	3
6 Designation	4
7 Marking	4
Bibliography	5

STANDARDSISO.COM : Click to view the full PDF of ISO 6787:2018

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 voluntary nature of standards, 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.

This document was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This third edition cancels and replaces the second edition (ISO 6787:2001), which has been technically revised. The main changes compared to the previous edition are as follows:

- the reference number from ISO 1703:2005 has been updated;
- the values for test mandrel width across flats and torque values in [Table 2](#) have been updated;
- a footnote in [Table 2](#) with reference to ISO 1711-1:2016 has been added (moved from [Clause 6](#)).

Assembly tools for screws and nuts — Adjustable wrenches

1 Scope

This document specifies the dimensions of adjustable wrenches and the admissible clearance of the adjustable jaw. It also specifies test conditions to test the suitability of tool performance.

NOTE The wrenches covered by this document are the ones identified in ISO 1703:2005 under reference number 1 1 01 04 0.

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 1711-1, *Assembly tools for screws and nuts — Technical specifications — Part 1: Hand-operated wrenches and sockets*

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:

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

4 Dimensions

The dimensions are given in [Table 1](#).

[Figure 1](#) shows only an example and should not influence the design of the wrench.

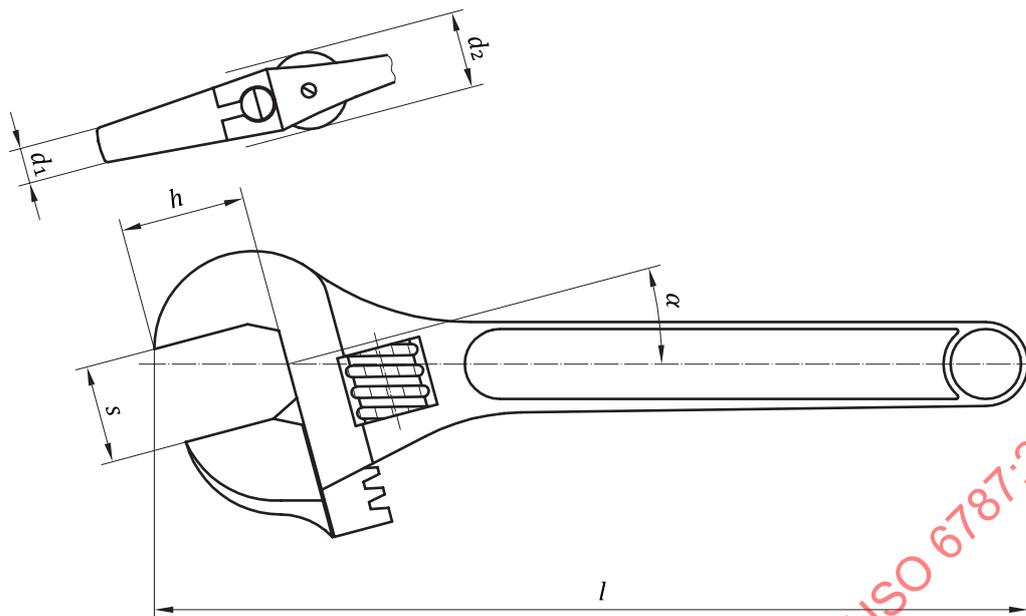
5 Technical specifications

5.1 Clearance of adjustable jaw

The clearance, c , between the adjustable jaw and the fixed jaw shall be measured in accordance with [Figure 2](#) by application of a low force at the jaw.

The clearance shall not exceed the maximum values for the specified sizes given in [Table 1](#), irrespective of which side is to be checked.

The adjustable jaw shall be manufactured to permit free travel throughout the range of opening without binding or wedging.



Key

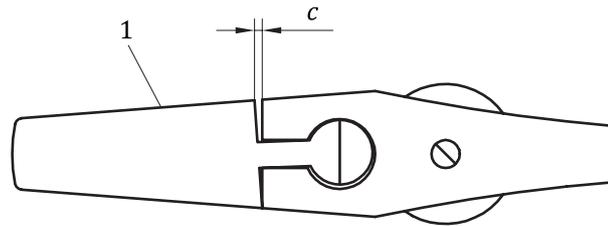
- d_1 thickness of the jaw tip
- d_2 thickness of the head
- h depth of the jaw
- l length of the wrench
- s opening of the jaw
- α angle

Figure 1 — Adjustable wrench

Table 1 — Dimensions of adjustable wrench

Dimensions in millimetres

Length		Maximum opening of the jaw s_{max}	Depth of the jaw h min.	Jaw tip thickness d_1 max.	Thickness of the head d_2 max.	Angle		Clearance c max.
nom.	tol.					α		
100	+ 15 0	≥ 13	12	6	15°	22,5°	0,25	
150		≥ 19	17,5	7			0,25	
200		≥ 24	22	8,5			0,28	
250		≥ 27	26	11			0,28	
300	+ 30 0	≥ 34	31	13,5				0,30
375		≥ 41	40	16			0,30	
450	+ 45 0	≥ 50	48	19				0,36
600		≥ 60	57	28			0,50	

**Key**

c clearance

1 jaw

Figure 2 — Clearance of adjustable jaw

5.2 Hardness

The hardness of the wrenches shall be at least 40 HRC. The hardness value shall be tested over the whole of the head.

5.3 Torque test

Testing shall be carried out on a hexagon test mandrel treated to a minimum hardness of 55 HRC.

The test procedure shall be as specified in ISO 1711-1.

The torque shall be applied successively in the two opposite directions.

The test torque values are given in [Table 2](#).

After testing, the wrench shall present neither permanent deformation nor any other defect that may influence its correct use.

Table 2 — Torsion test

Length of the wrench mm	Test mandrel width across flats mm	Test torque min. N · m
100	13	41
150	19	119
200	24	230
250	27	319
300	34	609
375	41	923
450	50	1 373
600	60	1 977

NOTE The values in column "Test torque" are equal to those of ISO 1711-1:2016, Table 3, Series C, multiplied by factor 0,8.

6 Designation

An adjustable wrench in accordance with this document shall be designated by:

- a) “wrench”;
- b) a reference to this document, i.e. ISO 6787;
- c) the form, i.e. A or B;
- d) the angle, α ; and
- e) the length, l , in millimetres.

EXAMPLE 1 An adjustable wrench of form A with $\alpha = 15^\circ$ and $l = 250$ mm is designated as follows:

Wrench ISO 6787– A 15 × 250

EXAMPLE 2 An adjustable wrench of Form B with $\alpha = 22,5^\circ$ and $l = 300$ mm is designated as follows:

Wrench ISO 6787 – B 22,5 × 300

7 Marking

Adjustable wrenches shall be marked, permanently and legibly, with at least the following:

- a) the nominal length, l , in millimetres;
- b) the name or trademark of the manufacturer (or the responsible supplier).

STANDARDSISO.COM : Click to view the full PDF of ISO 6787:2018