INTERNATIONAL STANDARD

ISO 6787

Second edition
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Assembly tools for screws and nuts — Adjustable wrenches

Outils de manœuvre pour vis et écrous — Clés à molette

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6787 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This second edition cancels and replaces the first edition (ISO 6787:1982), which has been technically revised.

Assembly tools for screws and nuts — Adjustable wrenches

1 Scope

This International Standard 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 Adjustable wrenches are listed in ISO 1703:1983 under number 2[1].

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1711-1:1996, *Assembly tools for screws and nuts — Technical specifications — Part 1: Hand-operated wrenches and sockets.*

3 Dimensions

See Figure 1 and Table 1.

NOTE Figure 1 of this International Standard is only an example and should not influence the design of the wrench.

4 Clearance of adjustable jaw

The clearance, *j*, between the adjustable jaw and the fixed jaw shall be measured in accordance with Figure 2.

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.

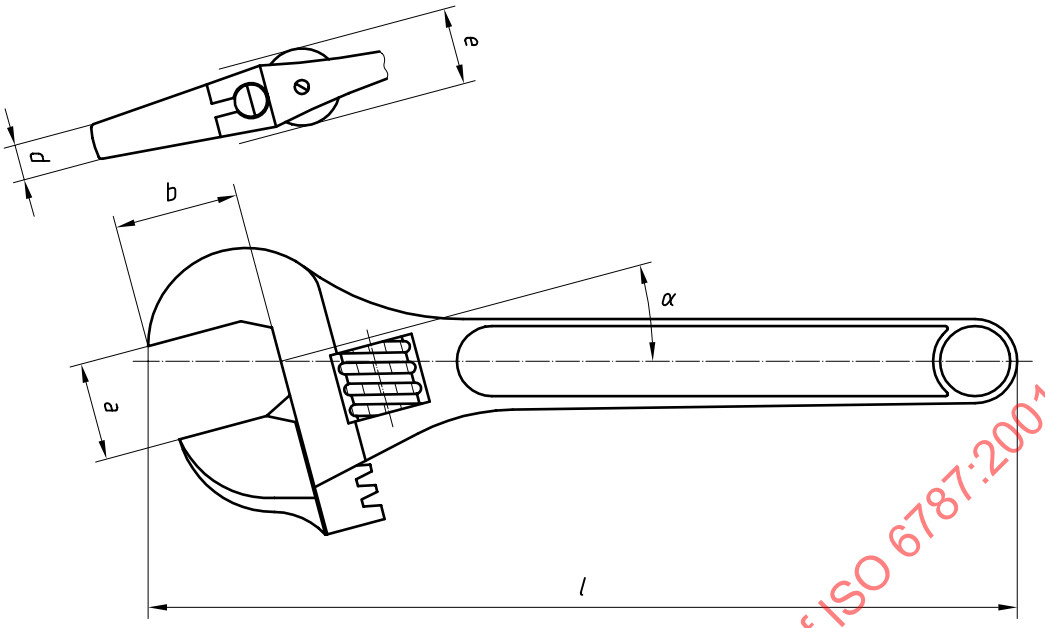
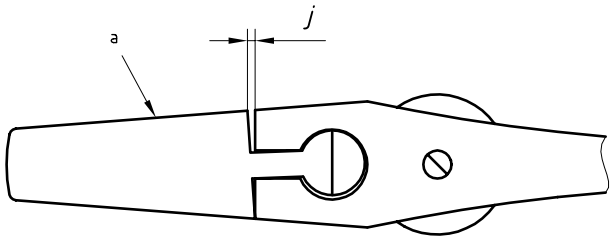


Figure 1 — Adjustable wrench

Table 1 — Dimensions of adjustable wrench

Dimensions in millimetres

Length l		Maximum guaranteed capacity of the jaws	Depth of the jaws	Jaw tip thickness	Thickness of the head	Angle α		Clearance
nom.	tol.	a	b min.	d max.	e max.	Form A	Form B	j max.
100	$^{+15}_{0}$	⩾ 13	12	6	10	15°	22,5°	0,25
150		⩾ 19	17,5	7	13			0,25
200		⩾ 24	22	8,5	15			0,28
250		⩾ 28	26	11	17			0,28
300	$^{+30}_{0}$	⩾ 34	31	13,5	20			0,30
375		⩾ 43	40	16	26			0,30
450	$^{+45}_{0}$	⩾ 52	48	19	32			0,36
600		⩾ 62	57	28	36			0,50



a Pressure

Figure 2 — Clearance of adjustable jaw

5 Hardness

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

6 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 values of the applicable test torque are equal to those of series C of ISO 1711-1:1996, multiplied by a factor of 0,8. These 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	12	33
150	17	85
200	22	180
250	27	320
300	32	515
375	41	920
450	50	1 370
600	60	1 970

7 Designation

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

a) “wrench”;

b) reference to this International Standard, i.e. ISO 6787;

c) Form, i.e. A or B;

d) angle α ;

e) length l, in millimetres.

EXAMPLE 1 An adjustable wrench of Form A with the angle 15° and of 250 mm length is designated as follows:

Wrench ISO 6787 A 15 × 250

EXAMPLE 2 An adjustable wrench of Form B with the angle 22,5° and of 300 mm length is designated as follows

Wrench ISO 6787 B 22,5 × 300

8 Marking

Adjustable wrenches shall be marked, permanently and legibly, with the name or trademark of the manufacturer (or the responsible supplier).