
**Assembly tools for screws and nuts —
Square drive sockets —**

Part 3:
**Machine-operated sockets (“non-
impact”) — Dimensions**

*Outils de manœuvre pour vis et écrous — Douilles à carré conducteur
femelle —*

Partie 3: Douilles à machine «non-impact» — Dimensions



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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 part of ISO 2725 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 2725-3 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

ISO 2725 consists of the following parts, under the general title *Assembly tools for screws and nuts — Square drive sockets*:

- *Part 1: Hand-operated sockets — Dimensions*
- *Part 2: Machine-operated sockets ("impact") — Dimensions*
- *Part 3: Machine-operated sockets ("non-impact") — Dimensions*

Assembly tools for screws and nuts — Square drive sockets —

Part 3: Machine-operated sockets (“non-impact”) — Dimensions

1 Scope

This part of ISO 2725 specifies dimensions, designation and marking of machine operated “non-impact” square drive sockets.

NOTE 1 Machine operated “non-impact” square drive sockets are listed under number 301 in ISO 1703:1983.

NOTE 2 Hand-operated sockets are dealt with in ISO 2725-1. Machine-operated “impact” sockets are dealt with in ISO 2725-2.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 2725. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 2725 are encouraged to investigate the possibility of applying the most recent editions of the normative documents 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 691, *Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use.*

ISO 1174-2, *Assembly tools for screws and nuts — Driving squares — Part 2: Driving squares for power socket tools.*

3 Tolerances on width across flats

Tolerances on width across flats, s , shall be in conformity with the tolerances for socket openings given in ISO 691. Manufacturers are free to choose the series of deviations.

4 Dimensions

See Figures 1 to 3 and Tables 1 to 5.

NOTE Figures 1 to 3 are given only as examples. They are not intended to influence the manufacturer's design.

The driving squares are in conformity with ISO 1174-2.

Tables 1 to 3 give the dimensions of sockets for driving squares of 6,3, 10 and 12,5 (according to ISO 1174-2). Table 4 gives the dimensions of the retaining pin. Table 5 gives the dimensions of the retaining ring.

During use, the socket shall be maintained by a retaining ring and pin (type G) or by a plunger retainer (type J).

Retaining systems G and J can be used for all types of socket and are not dependent on the shape of the socket.

5 Designation

A machine-operated, non-impact square drive socket, conforming to this part of ISO 2725 shall be designated by

- "Hex non-impact socket" or "Bi-hex non-impact socket" according to the insert;
- reference to this part of ISO 2725, i.e. ISO 2725-3;
- dimensions of the square drive in millimetres;
- width across the flats, in millimetres.

EXAMPLE A double hexagon (bihex) machine-operated square drive socket "non-impact" with 12,5 mm square drive size and with width across flats of 10 mm is designated as follows:

Bi-hex non-impact socket ISO 2725-3 - 12,5 × 10

6 Marking

The machine operated square drive non-impact socket shall be marked, permanently and legibly, with at least the following:

- the value of the dimension across the flats;
- the name or trade mark of the manufacturer (or responsible supplier);
- the indication "**NON-IMPACT**" (in block capitals).

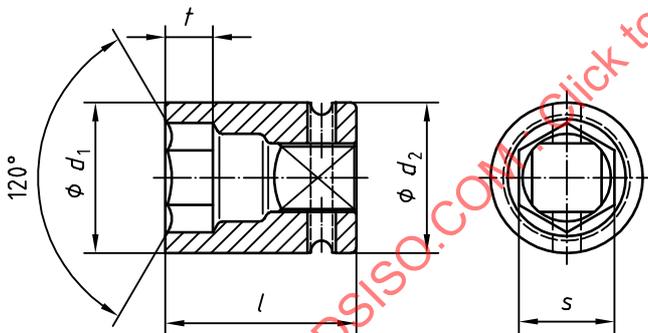


Figure 1 — Socket shown with type G square conforming to ISO 1174-2

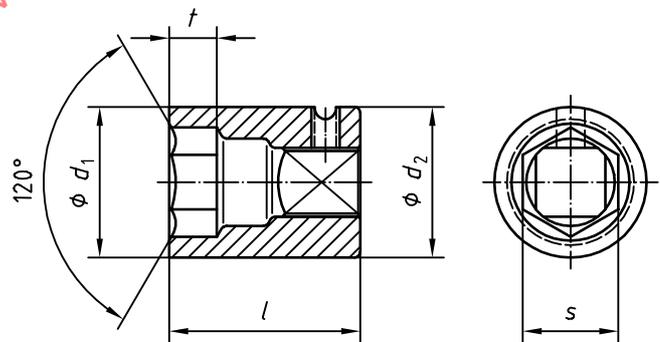


Figure 2 — Socket shown with type J square conforming to ISO 1174-2

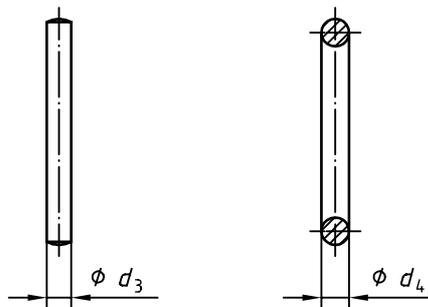


Figure 3 — Retaining pin and ring

Table 1 — Square drive of 6,3 mm

Dimensions in millimetres

<i>s</i>	<i>t</i> min.	<i>d</i> ₁ max.	<i>d</i> ₂ max.	<i>l</i> max.
3,2	1,1	5,9	14	25
4	1,4	6,9		
5	1,7	8,2		
5,5	2,1	8,8		
6	2,4	9,4		
7	2,8	11		
8	3,5	12,2		
9		13,5		
10	4,2	14,7	16	
11	4,9	16		
12	5,6	17,2	17,8	
13		18,5	19,1	

Table 2 — Square drive of 10 mm

Dimensions in millimetres

<i>s</i>	<i>t</i> min.	<i>d</i> ₁ max.	<i>d</i> ₂ max.	<i>l</i> max.
7	2,8	11	20	34
8	3,5	12,2		
9		13,5		
10	4,2	14,7		
11	4,9	16		
12	5,6	17,2	28	
13		18,5		
14	7	19,7		
15		21		
16		22,2		
17		23,5		
18	8,4	24,7		
19		26		

Table 3 — Square drive of 12,5 mm

Dimensions in millimetres

<i>s</i>	<i>t</i> min.	<i>d</i> ₁ max.	<i>d</i> ₂ max.	<i>l</i> max.
10	4,2	15,5	28	40
11	4,9	16,7		
12	5,6	18,0		
13		19,2		
14	7	20,5	37	
15		21,7		
16		23		
17	8,4	24,2		
18		25,5		
19	9,8	26,7		
21		29,2		
22	30,5			
24	11,2	33	39	
27	12,6	36,7		50

Table 4 — Retaining Pin

Dimensions in millimetres

Driving square	<i>d</i> ₃	
	min.	max.
6,3	1,4	2,0
10	2,4	2,9
12,5	2,9	4

Table 5 — Retaining Ring

Dimensions in millimetres

Driving square	<i>d</i> ₄
6,3	2,5
10	3,5
12,5	4

Bibliography

- [1] ISO 1703:1983, *Assembly tools for screws and nuts — Nomenclature*.
- [2] ISO 2725-1, *Assembly tools for screws and nuts — Square drive sockets — Part 1: Hand-operated sockets — Dimensions*.
- [3] ISO 2725-2, *Assembly tools for screws and nuts — Square drive sockets — Part 2: Machine-operated sockets ("impact") — Dimensions*.

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