INTERNATIONAL STANDARD

ISO 2725-2

First edition
1996-12-01

Assembly tools for screws and nuts — Square drive sockets —

Part 2:
Machine-operated sockets ("impact") — Dimensions

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

Partie 2: Douilles à machine «impact» — Dimensions

Reference number
ISO 2725-2:1996(E)

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.

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.

International Standard ISO 2725-2 was prepared by Technical Committee ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This first edition of ISO 2725-2 as well as ISO 2725-1 cancels and replaces ISO 2725:1987, which has been technically revised.

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*

Annex A of this part of ISO 2725 is for information only.

International Organization for Standardization
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Assembly tools for screws and nuts — Square drive sockets —

Part 2:
Machine-operated sockets ("impact") — Dimensions

1 Scope

This part of ISO 2725 specifies dimensions, designation and marking of machine-operated "impact" square drive sockets with operating end having a hexagonal or double hexagonal form in accordance with ISO 1174-2.

Hand-operated sockets are dealt with in ISO 2725-1.

NOTES

1 Machine-operated ("impact") square drive sockets are listed under number 301 in ISO 1703.

2 The figures in this part of ISO 2725 are given only as examples. They are not intended to influence the manufacturer's design.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 2725. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 2725 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 691:1983, *Wrench and socket openings — Metric series — Tolerances for general use.*

ISO 1174-2:1996, *Assembly tools for screws and nuts — Driving squares — Part 2: Driving squares for power socket tools.*

3 Tolerances across flats

Tolerances 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

Tables 1 to 7 give the dimensions, in millimetres, of sockets shown in figures 1 to 3 for driving squares of 6,3 mm to 40 mm (in accordance with ISO 1174-2). Tables 8 and 9 give the dimensions of the retaining pin and the dimensions of the retaining ring respectively, shown in figure 4.

5 Designation

A machine-operated ("impact") square drive socket in accordance with this part of ISO 2725 shall be designated by

a) "Hex impact socket" or "Bi-hex impact socket" depending on its form;

b) reference to this part of ISO 2725, i.e. ISO 2725-2;

c) square drive dimensions, in millimetres;

d) size across flats, in millimetres.

EXAMPLE

Double hexagon machine-operated square drive socket "impact" with 12,5 mm square drive size and width across flats s = 10 mm is designated as follows:

Bi-hex impact socket ISO 2725-2 - 12,5 × 10

6 Marking

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

— the name or trademark of the manufacturer (or distributor);

— the size across flats.

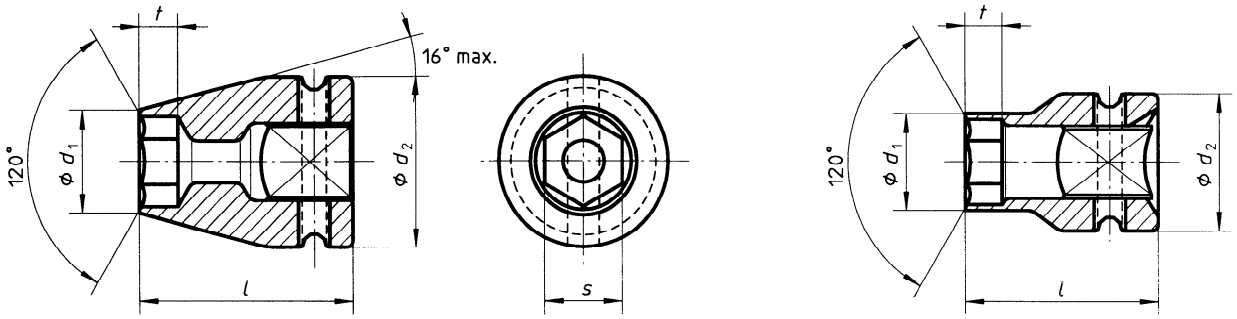

Figure 1 — Sockets with $d_1 < d_2$

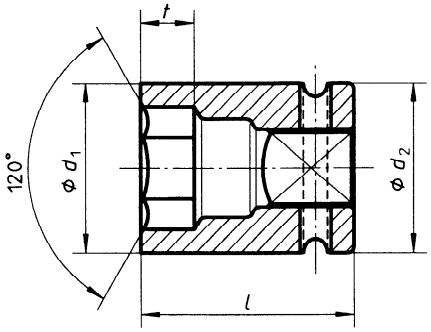

Figure 2 — Sockets with $d_1 = d_2$

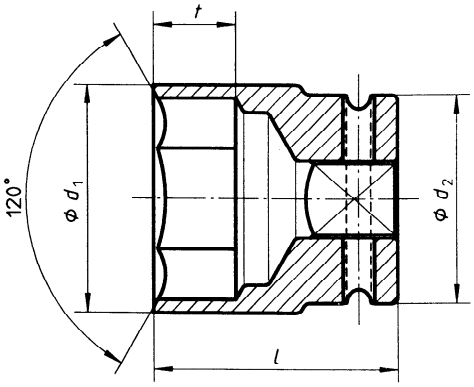

Figure 3 — Sockets with $d_1 > d_2$

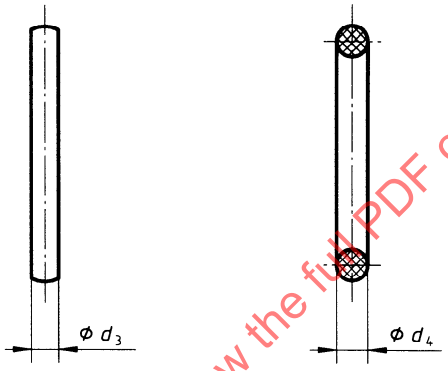

Figure 4 — Retaining pin and ring

Table 1 — Square drive of 6,3 mm

s	t min.	d_1 max.	d_2 max.	l max.
3,2	1,1	6,8	14	25
4	1,4	7,8		
5	1,7	9,1		
5,5	2,1	9,7		
6	2,4	10,3		
7	2,8	11,6		
8	3,5	12,8		
9		14,1	16	
10	4,2	15,3		
11	4,9	16,6	16,6	
12	5,6	17,8	17,8	
13		19,1	19,1	

Table 2 — Square drive of 10 mm

s	t min.	d_1 max.	d_2 max.	l max.
7	2,8	12,8	20	34
8	3,5	14,1		
9		15,3		
10	4,2	16,6		
11	4,9	17,8		
12	5,6	19,1		
13		20,3	28	
14	7	21,6		
15		22,8		
16		24,1		
17		25,3		
18	8,4	26,6		
19		27,8		

Table 3 — Square drive of 12,5 mm

s	t min.	d_1 max.	d_2 max.	l max.
10	4,2	17,8	28	40
11	4,9	19		
12	5,6	20,3		
13		21,5		
14	7	22,8	37	
15		24		
16		25,3		
17		26,5		
18	8,4	27,8		
19		29		
21	9,8	31,5		
22		32,8		
24	11,2	35,3		45
27	12,6	39	39	50

Table 4 — Square drive of 16 mm

s	t min.	d_1 max.	d_2 max.	l max.
14	7	25	35	48
15		26,3		
16		27,5		
17		28,8		
18	8,4	30		
19		31,3		
21	9,8	33,8		
22		35		
24	11,2	37,5	37,5	51
27	12,6	41,3	41,3	
30	14	45	45	
32	15,4	47,5	47,5	55
34		50	50	
36	16,8	52,5	52,5	

Table 5 — Square drive of 20 mm

s	t min.	d_1 max.	d_2 max.	l max.
18	8,4	32,4	48	51
19	8,4	33,6		
21	9,8	36,1		
22	9,8	37,4		
24	11,2	39,9		
27	12,6	43,6		54
30	14	47,4		
32	15,4	49,9	58	57
34	15,4	52,4		
36	16,8	54,9		
41	18,9	61,1	61,1	58
46	21	67,4	67,4	63

Table 6 — Square drive of 25 mm

s	t min.	d_1 max.	d_2 max.	l max.
27	12,6	46,7	58	60
30	14	50,4		62
32	15,4	52,9		63
34		55,4		
36	16,8	57,9		67
41	18,9	64,2	68	70
46	21	70,4		76
50	23,1	75,4		82
55	25,2	81,7		87
60	27,3	87,9		91

Table 7 — Square drive of 40 mm

s	t min.	d_1 max.	d_2 max.	l max.
36	16,8	64,2	86	78
41	18,9	70,4		80
46	21	76,7		84
50	23,1	81,7		87
55	25,2	87,9		90
60	27,3	94,2		95

Table 8 — Retaining pin

Driving square	d_3 min.	d_3 max.
6,3	1,4	2,0
10	2,4	2,9
12,5	2,9	4,0
16	2,9	4,0
20	3,8	4,8
25	4,8	6,0
40	5,8	7,0

Table 9 — Retaining ring

Driving square	d_4
6,3	2,5
10	3,5
12,5	4
16	4,5
20	5
25	7
40	10