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# INTERNATIONAL STANDARD 5835 / I

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Implants for surgery — Metal bone screws — Dimensions — Part I : Screws with asymmetrical thread, variable fitting (spherical)**

*Implants pour la chirurgie — Vis métalliques pour os — Dimensions — Partie I : Vis à filet asymétrique, embase (sphérique) variable*

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Price based on 3 pages

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5835/1 was developed by Technical Committee ISO/TC 150, *Implants for surgery*, and was circulated to the member bodies in December 1976.

It has been approved by the member bodies of the following countries :

Australia	Germany	<del>Spain</del>
Austria	Hungary	Switzerland
Belgium	Italy	Turkey
Brazil	Mexico	United Kingdom
Canada	New Zealand	U.S.A.
Czechoslovakia	Romania	
Denmark	South Africa, Rep. of	

No member body expressed disapproval of the document.

This part is one of a series of four which will comprise the International Standard for dimensions of metal bone screws for use in implant surgery.

The series as follows :

- Part I : Screws with asymmetrical thread, variable fitting (spherical).
- Part II : Screws with asymmetrical thread, constant fitting (spherical).
- Part III : Screws with asymmetrical thread, variable fitting (conical).
- Part IV : Screws with symmetrical thread, variable fitting (conical).

Parts III and IV are still under development.

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ISO 5835-1:1978

<https://standards.iteh.ai/catalog/standards/sist/4bc45538-359f-4b66-b3c0-e76cbeb7675e/iso-5835-1-1978>

# Implants for surgery — Metal bone screws — Dimensions — Part I : Screws with asymmetrical thread, variable fitting (spherical)

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies dimensions and tolerances for metal bone screws used in surgery and having shallow and deep asymmetrical threads, heads with spherical under-surfaces, and head diameters that vary with the diameters of the thread (hence "variable-fitting").

The screws are provided exclusively with hexagonal drive sockets.

## 2 CODE FOR SCREW THREAD

The following code shall be used to distinguish the type of thread of screws conforming to this International Standard :

Type of thread	Code
Shallow (for cortical screws)	HA
Deep (for spongiosa screws)	HB

3 DIMENSIONS AND TOLERANCES (All dimensions are given in millimetres)

3.1 Screws with shallow thread

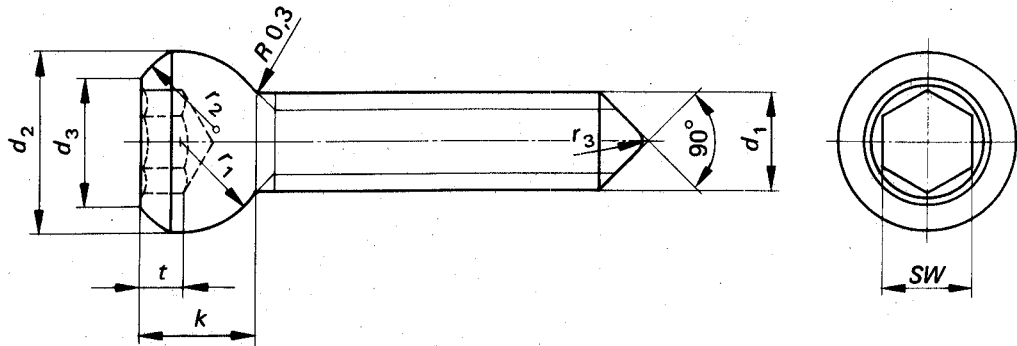


FIGURE 1 – Screw with shallow thread

TABLE 1 – Dimensions of the HA series screws

Code and diameter of thread	$d_1$ Nominal diameter	$d_2$ 0 -0,1	$d_3$ min.	$k$ max.	$r_1$ +0,25 0	$r_2$ ≈	$r_3$	SW E8	$t$ min.
HA 2,7	2,7	5	3,5	2,3	2,5	2,5	0,4	2,5	1,2
HA 3,5	3,5	6	3,5	2,6	3	3,5	1	2,5	1,5
HA 4,5	4,5	8	—	4,6	4	2,5	1	3,5	2,8

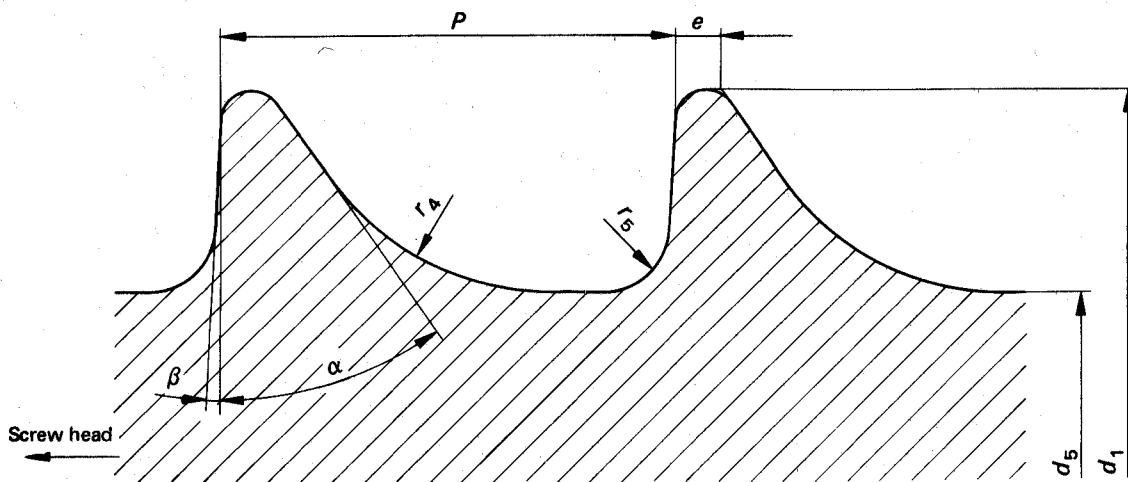


FIGURE 2 – Shallow thread (HA)

TABLE 2 – Dimensions of the HA thread

Code and diameter of thread	$d_1$ 0 -0,1	$d_5$ 0 -0,2	$e$ ≈	$p$	$r_4$	$r_5$	$\alpha$	$\beta$
HA 2,7	2,7	1,9	0,1	1	0,6	0,15	35°	3°
HA 3,5	3,5	2,4	0,1	1,25	0,8	0,2	35°	3°
HA 4,5	4,5	3	0,1	1,75	1	0,3	35°	3°

3.2 Screws with deep thread

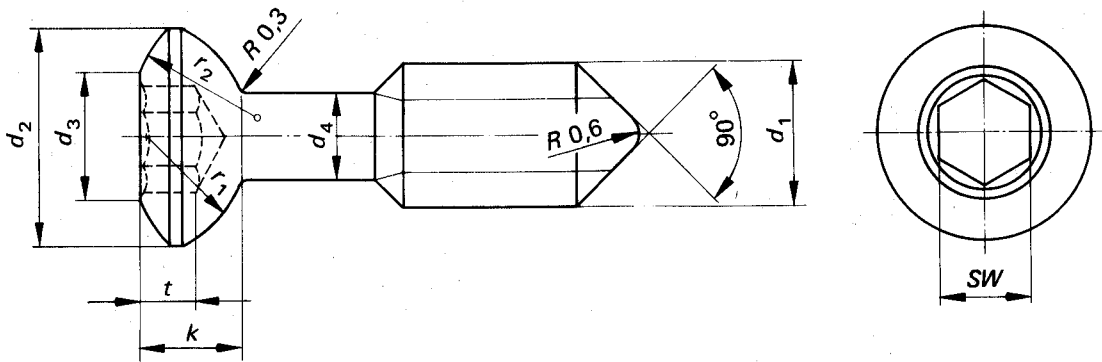


FIGURE 3 – Screw with deep thread

TABLE 3 – Dimensions of the HB series screws

Code and diameter of thread	$d_1$ Nominal diameter	$d_2$ 0 -0,1	$d_3$ min.	$d_4$	$k$ max.	$r_1$ +0,25 0	$r_2$ ≈	SW E8	$t$ min.
HB 4	4	6	3,5	2,4	2,9	3	3,5	2,5	1,5
HB 6,5	6,5	8	4,2	4,5	4,6	4	2,5	3,5	2,8

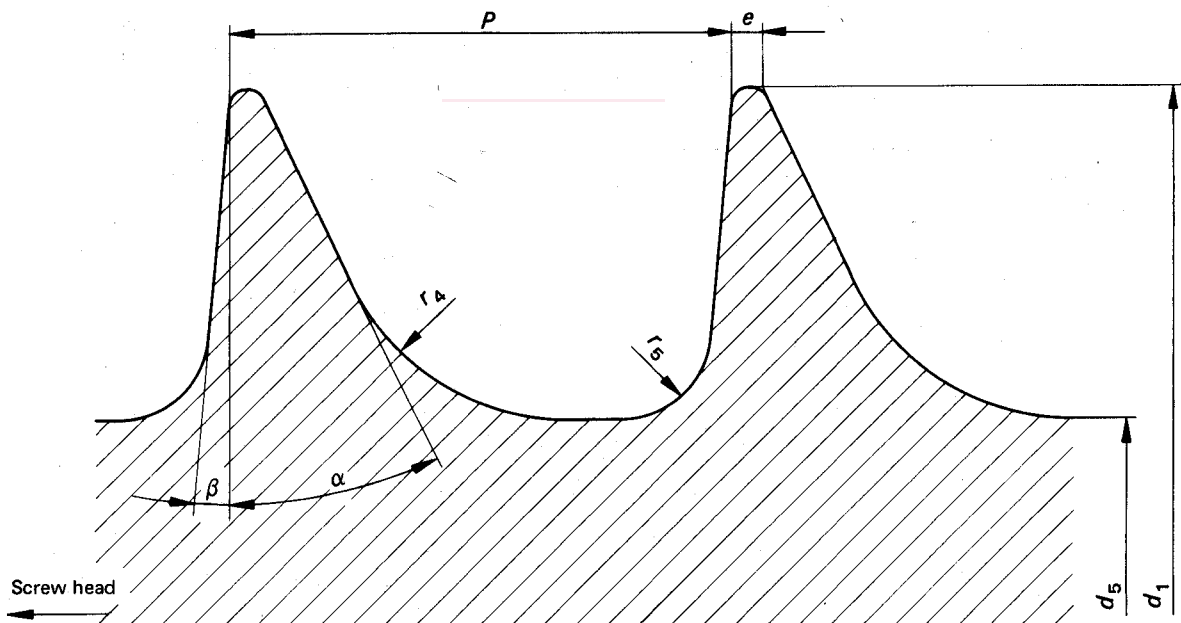


FIGURE 4 – Deep thread (HB)

TABLE 4 – Dimensions of the HB thread

Code and diameter of thread	$d_1$ 0 -0,1	$d_5$ 0 -0,1	$e$ ≈	$p$	$r_4$	$r_5$	$\alpha$	$\beta$
HB 4	4	1,8	0,1	1,75	0,8	0,3	25°	5°
HB 6,5	6,5	3	0,2	2,75	1,2	0,8	25°	5°