International Standard 5414/1

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

Tool chucks (end mill holders) with clamp screws for flatted parallel shank tools — Part 1 : Dimensions of the driving system of tool shanks

Mandrins porte-outils, à vis de blocage, pour outils à queue cylindrique à méplat — Partie 1 : Dimensions du système d'entraînement des queues d'outils

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Descriptors : tools, tool holders, chucks, dimensions.

Price based on 2 pages

Foreword

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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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5414/1 was prepared by Technical Committee ISO/TC 29, *Small tools*.

ISO 5414/1 was first published in 1982. This second edition cancels and replaces the first edition, of which the tolerance on $^1/_2$ has been revised.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Tool chucks (end mill holders) with clamp screws for flatted parallel shank tools — Part 1 : Dimensions of the driving system of tool shanks

1 Scope and field of application

This part of ISO 5414 lays down the dimensions of tool chucks (end mill holders) with clamp screws designed for driving of flatted parallel shanks and specifies the clamp screws used.

It also gives the maximum diameter of the chuck nose.

Two types of drive are defined :

— chucks with bores of $d_1 \leqslant 20$ mm are intended for driving parallel shank tools with a single flat, these tools being provided with either a single or a double cutting part;

— chucks with bores of $d_1 \geqslant 25$ mm are intended for driving parallel shank tools with a double flat, these tools being provided with a single cutting part only.

The connecting dimensions of the various types of chucks are dealt with in ISO 5414/2.

The flatted parallel shanks mounted into these chucks shall conform with ISO 3338/2.

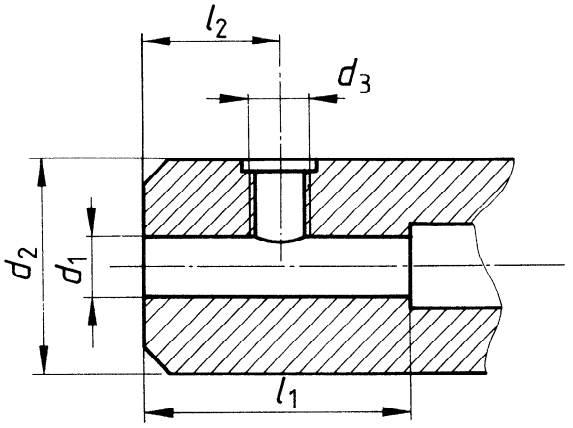
2 References

ISO 3338/2, *Parallel shanks for milling cutters — Part 2 : Dimensional characteristics of flatted parallel shanks.*

ISO 5414/2, *Tool chucks (end mill holders) with clamp screws for flatted parallel shank tools — Part 2 : Connecting dimensions of chucks.*

3 Dimensions

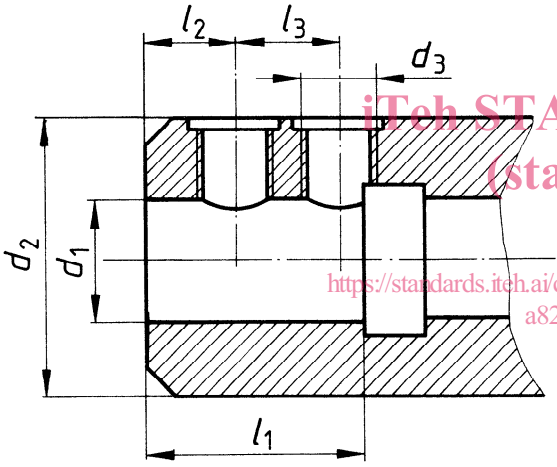
3.1 Chucks for tool shanks with single flat



Dimensions in millimetres

d_1 H5	l_1 ± 1	l_2 0 / − 1	d_2 0 / − 1	d_3 6H
6	35	18	25	M6
8	35	18	28	M8
10	39	20	35	M10
12	44	22,5	42	M12
16	47	24	48	M14
20	49	25	52	M16

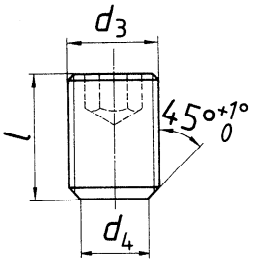
3.2 Chucks for tool shanks with double flat



Dimensions in millimetres

d_1 H5	l_1 ± 1	l_2 0 / − 1	l_3 ± 0,5	d_2		d_3 6H
25	54	24	25	65	0 / − 1	M18 × 2
32	58	24	28	72		M20 × 2
40	68	30	32	90		M20 × 2
50	78	35	35	100	max.	M24 × 2
63	88	40	40	130		M24 × 2

3.3 Clamp screw



Dimensions in millimetres

d_3 6h	d_4 + 0,1 / 0	l [1]	Boring chucks, d_1
M6	4,2	10	6
M8	5,5	10	8
M10	7	12	10
M12	8	16	12
M14	10	16	16
M16	11	16	20
M18 × 2	12	20	25
M20 × 2	14	20	32
M20 × 2	14	25	40
M24 × 2	18	25	50
M24 × 2	18	33	63

1) The values given represent the screw nominal length for boring chucks up to 32 mm inclusive. For larger chucks, l values are given for guidance and calculated from maximum values of d_2. In the case of reduced d_2 bore, the screw length shall be re-calculated making sure that the engagement length is appropriate.