International Standard 213

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Machine tools — Lathe tool posts — Overall internal height

Machines-outils — Supports d'outils pour tours — Encombrement intérieur en hauteur

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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.

International Standard ISO 213 was developed by Technical Committee ISO/TC 39, *Machine tools*.

It was submitted directly to the ISO Council, in accordance with clause 6.11.2 of part 1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 213-1961, which had been approved by the member bodies of the following countries :

Belgium	Germany, F. R.	Romania
Brazil	Hungary	Sweden
Bulgaria	India	Switzerland
Czechoslovakia	Italy	United Kingdom
Denmark	Netherlands	USA
Finland	Pakistan	USSR
France	Poland	

No member body had expressed disapproval of the document.

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Machine tools — Lathe tool posts — Overall internal height

1 Scope and field of application

This International Standard lays down overall internal heights of lathe tool posts, from the horizontal level of the lathe axis.

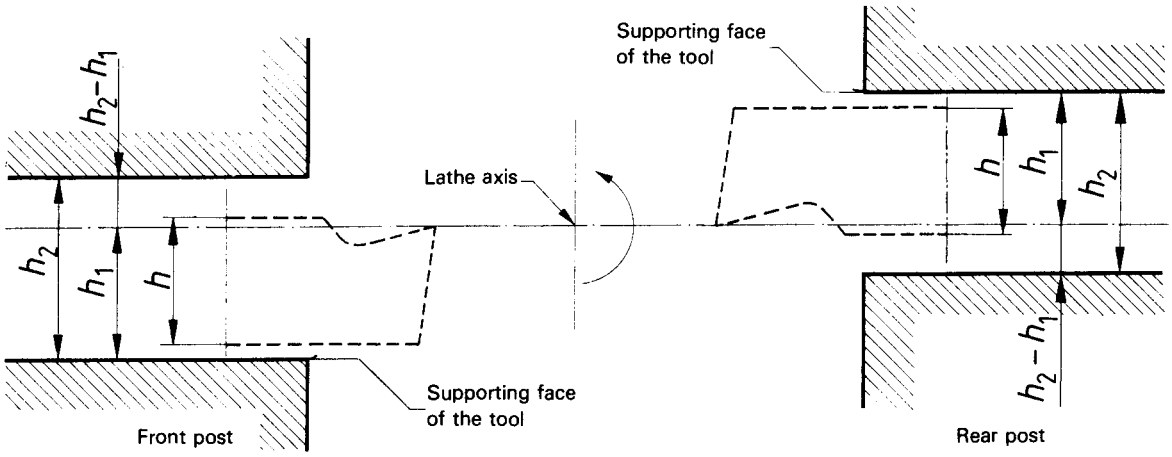
2 Sizes

2.1 The overall internal heights are fixed, from the horizontal level of the lathe axis, in terms of height h of the strongest standardized tool suitable for the full power of the lathe.

2.2 These sizes are given in millimetres, and in inches for countries using the imperial system of units, and were determined so as to ensure complete interchangeability of posts and tools.

In order to fulfil this condition, height h_1 (distance in height from supporting face of the tool in relation to the horizontal level of the lathe axis) was taken slightly greater than height h of the tool, that is, approximately 1,1 h.

The overall internal height h_2 was taken greater than height h_1 by about 0,5 h, so as to leave a sufficient margin for using the tool after a certain number of resharpenings had reduced the height of the edge above the base of this tool.



Figure

2.3 The above-mentioned specifications are valid for the rear post as well as for the front post, on the assumption of the most general case, when the edge of the new tool is on the same level as the upper face of the tool.

An alternative provides for the case when the lathe would be designed more specially to use, in the rear post, a "gooseneck" tool, the edge of which, when new, is clearly below the upper face of the tool; in this case, as height h_1 remains unchanged, the total overall height h_2 has to be increased by about 0,4 h, in order to leave a sufficient wear margin for the "gooseneck" tool.

2.4 Allowing for the height h of the strongest standardized tool suitable for the full power of the lathe, the values in the following tables should be adopted for overall internal height of tool posts.

Table

Height of the strongest admissible tool h		**Distance in height from supporting face of the tool** (in relation to the horizontal level of the lathe tool) h_1		**Distance in height from the face opposite the supporting face of the tool** (in relation to the horizontal level of the lathe tool) $h_2 - h_1$	
mm	in	mm	in	mm	in
6	1/4	7	9/32	3	1/8
8	5/16	9	11/32	3,5	5/32
10	3/8	11	7/16	5	3/16
12	1/2	14	9/16	6	1/4
16	5/8	18	11/16	7	5/16
20	3/4	22	7/8	10	3/8
25	1	28	1 1/8	12	1/2
32	1 1/4	36	1 3/8	14	5/8
40	1 1/2	45	1 3/4	18	3/4
50	2	56	2 1/8	24	1

All the tolerances are positives for both sizes h_1 and $h_2 - h_1$.

Alternatives

1 The sizes for the first three posts may still be considered as admissible if, while the dimension $h_2 - h_1$ remains unchanged, the size h_1 is reduced to the following minimum values :

for h = 6 mm or 1/4 in, h_1 = 6,35 mm = 0.250 in

for h = 8 mm or 5/16 in, h_1 = 8 mm = 0.315 in

for h = 10 mm or 3/8 in, h_1 = 10 mm = 0.394 in

2 In the special case where the rear post is designed specifically to be fitted with "gooseneck" tools, the overall height h_2 could be about 2 h instead of the value resulting from the table.