
**Tool shanks with 7/24 taper for automatic
tool changers —**

Part 2:

**Dimensions and designation of shanks of
forms J, JD and JF**

iTeh STANDARD PREVIEW
*Queues d'outils à conicité 7/24 pour changement automatique
d'outils —*
(standards.iteh.ai)
Partie 2: Dimensions et désignation des queues de formes J, JD et JF

ISO 7388-2:2007

<https://standards.iteh.ai/catalog/standards/sist/0f446f07-a018-4dbd-99a6-cca434a7bf43/iso-7388-2-2007>



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 7388-2:2007

<https://standards.iteh.ai/catalog/standards/sist/0f446f07-a018-4dbd-99a6-cca434a7bf43/iso-7388-2-2007>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 7388-2 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 7388-2:1984), which has been technically revised.

ISO 7388 consists of the following parts, under the general title *Tool shanks with 7/24 taper for automatic tool changers*:

- ISO 7388-2:2007
- *Part 1: Dimensions and designation of shanks of forms A, AD, AF, U, UD and UF*
 - *Part 2: Dimensions and designation of shanks of forms J, JD and JF*
 - *Part 3: Retention knobs for shanks of forms AC, AD, AF, UC, UD, UF, JD and JF*

Introduction

The aim of ISO 7388 is to integrate existing standards which are most commonly used as an industrial standard. In addition, the different developments for cooling and data chip have been taken into account.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 7388-2:2007](https://standards.iteh.ai/catalog/standards/sist/0f446f07-a018-4dbd-99a6-cca434a7bf43/iso-7388-2-2007)

<https://standards.iteh.ai/catalog/standards/sist/0f446f07-a018-4dbd-99a6-cca434a7bf43/iso-7388-2-2007>

Tool shanks with 7/24 taper for automatic tool changers —

Part 2:

Dimensions and designation of shanks of forms J, JD and JF

1 Scope

This part of ISO 7388 specifies the dimensions of tool shanks with a 7/24 taper of shank form J (with two possible additions for each) for automatic tool changers used on machines having an automatic gripping system for feeding tools from the magazine to the spindle and vice-versa. These tools are designed with the most important dimensions for use in spindle noses according to ISO 9270.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

[ISO 7388-2:2007](http://standards.iteh.ai/iso-7388-2-2007)

ISO 2768-2, *General tolerances — Part 2: Geometrical tolerances for features without individual tolerance indications*

ISO 8015, *Technical drawings — Fundamental tolerancing principle*

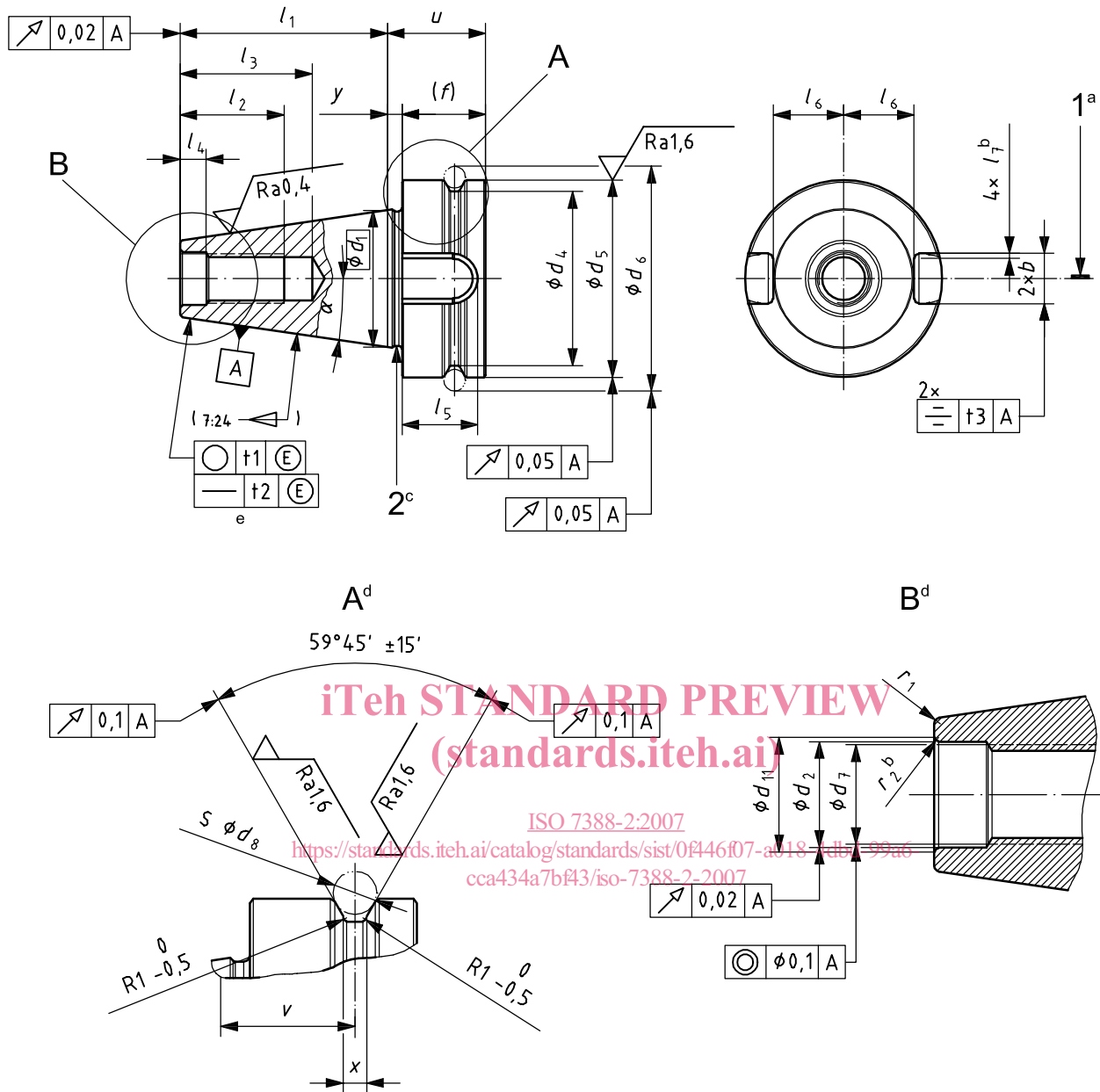
3 Dimensions

3.1 General

All dimensions and tolerances are given in millimetres; tolerancing is according to ISO 8015. Tolerances not specified shall be of tolerance class “m” in accordance with ISO 2768-1 and of class “k” in accordance with ISO 2768-2.

3.2 Shank form J

See Figure 1 and Table 1.



Key

- 1 cutting edge
- 2 transition between taper and flange
- a Position of the cutting edge for right hand tools with single cutting edge (can be rotated 180°: symmetrical design).
- b At the option of the manufacturer (radius or chamfer).
- c At the manufacturer's discretion.
- d Scale: 2:1.
- e Not convex.

Figure 1 — Shank form J

Table 1 — Dimensions of shanks of form J

Dimension	Shank number				
	30	40	45	50	60
$b \begin{smallmatrix} +0,2 \\ 0 \end{smallmatrix}$	16,1		19,3	25,7	
d_1^a	31,75	44,45	57,15	69,85	107,95
d_2 H8	12,5	17	21	25	31
$d_4 \begin{smallmatrix} 0 \\ -0,5 \end{smallmatrix}$	38	53	73	85	135
d_5 h8	46	63	85	100	155
$d_6 \pm 0,05$	56,03	75,56	100,09	118,89	180,22
d_7 6H	M12	M16	M20	M24	M30
d_8	8	10	12	15	20
d_{11} max.	14,5	19	23,5	28	36
f^b	20	25	30	35	45
$l_1 \pm 0,2$	48,4	65,4	82,8	101,8	161,8
l_2 min.	24	30	36	45	56
l_3 min.	34	43	50	62	76
$l_4 \begin{smallmatrix} +0,5 \\ 0 \end{smallmatrix}$	7	9	11	13	16
l_5 min.	17	21	26	31	34
l_6	16,3	22,6	29,1	35,4	60,1
l_6 tol.	$\begin{smallmatrix} 0 \\ -0,3 \end{smallmatrix}$		$\begin{smallmatrix} 0 \\ -0,4 \end{smallmatrix}$		
$l_7 \begin{smallmatrix} 0 \\ -0,5 \end{smallmatrix}$	1,6			2	
r_1	0,5	1			
$r_2 \begin{smallmatrix} c \\ 0 \\ -0,5 \end{smallmatrix}$	0,8	1	1,2	1,5	2
t_1	0,001		0,002		0,003
t_2	0,002		0,003		0,004
t_3	0,12			0,2	
u min.	22	27	33	38	48
$v \pm 0,1$	13,6	16,6	21,2	23,2	28,2
x	4	5	6	7	11
$y \pm 0,4^d$	2		3		
α	8°17'50"				
α tol.	$\begin{smallmatrix} +4'' \\ 0 \end{smallmatrix}$				

^a d_1 : basic diameter enclosed in a gauge plane.

^b For information only.

^c Chamfer or radius type of counterbore entrance are possible and limited by diameter d_{11} .

^d Tolerance $\pm 0,1$ for form JF.

3.3 Shank form JD

As a complement to Form J, it is possible to add a through hole, e.g. for centric inner cooling lubricant supply, as indicated in Figure 2. This form is called JD. The condition is that d_{10} shall be less than or equal to the core diameter of the thread receiving the retention knob.

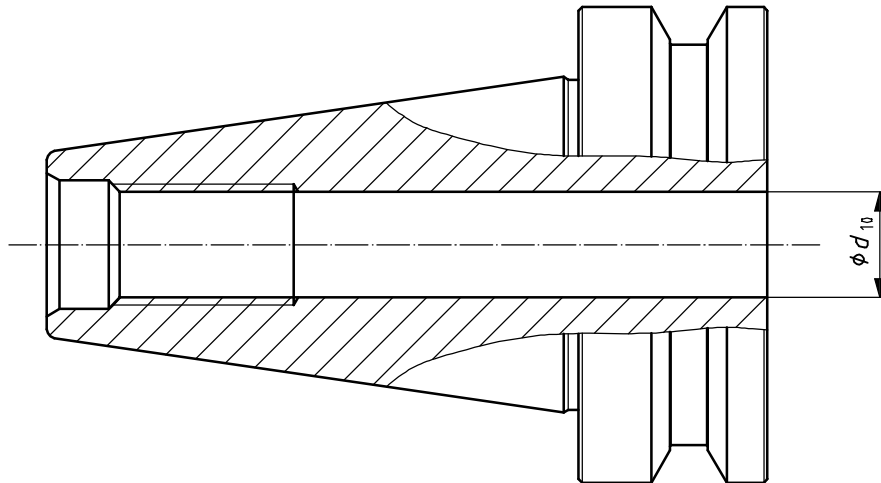
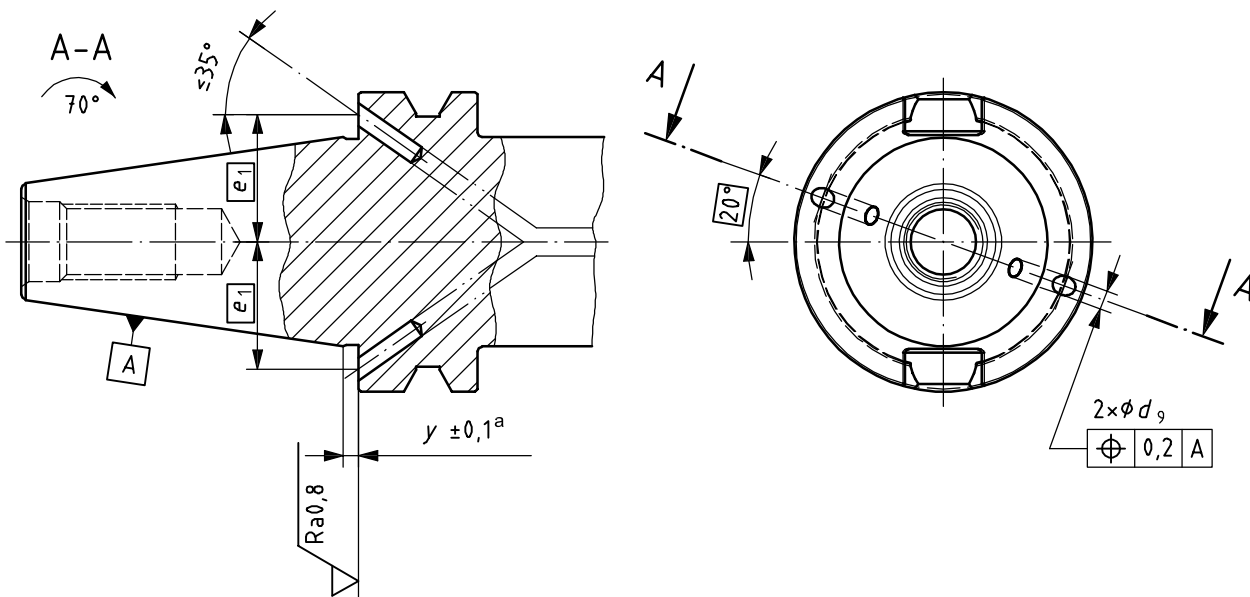


Figure 2 — Shank form JD

3.4 Shank form JF

As a complement to Form J, it is possible to add two holes at the back of the flange for inner coolant supply, the dimensions of which are indicated in Figure 3 and Table 2. This form is called JF.

If an auxiliary connecting bore is needed, it shall be sealed to withstand an operating pressure of up to 5 MPa, of a design that is at the manufacturer's discretion.



^a Different from forms J and JD.

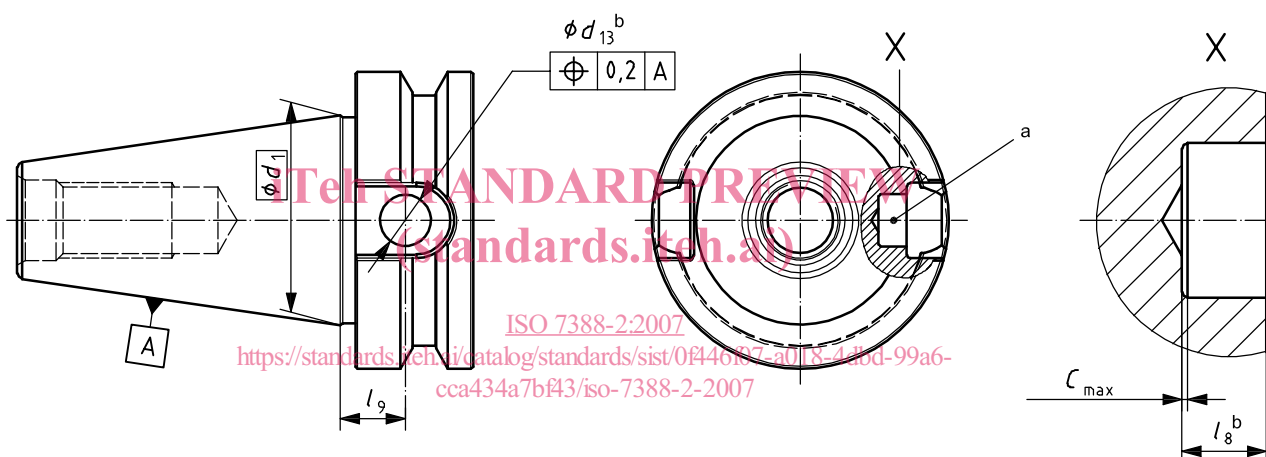
Figure 3 — Shank form JF

Table 2 — Supplementary dimensions of shank form JF

Shank no.	d_9 max.	e_1
30	2	20
40	4	27
45	5	35
50	6	42
60	8	66

3.5 Shanks with data medium

For the three shank forms defined in 3.2 to 3.4, it is possible to add a data medium, the dimensions of which are indicated in Figure 4 and Table 3.



- a The fitting position of the data medium is the same position of the cutting edge as for right-hand tools with a single cutting edge.
- b Other diameter and depth according to the data medium used.

Figure 4 — Fitting position of the data medium

Table 3 — Supplementary dimensions for fitting data medium

Dimension	Shank no.				
	30	40	45	50	60
c^a max.	$0,3 \times 45^\circ$ or $r 0,3^a$				
d_{13}	$10^{+0,09}_0$				
l_8	$4,6^{+0,2}_0$				
l_9	11	14,5	18	20,5	
^a At the discretion of the manufacturer.					