INTERNATIONAL STANDARD

ISO 10889-6

Second edition
2004-11-15

Tool holders with cylindrical shank —

Part 6: Type E with cylindrical seat

Porte-outil à queue cylindrique —

Partie 6: Porte-outil de type E pour outils à queue cylindrique

Reference number
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Foreword

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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 10889-6 was prepared by Technical Committee ISO/TC 29, *Small tools*.

This second edition cancels and replaces the first edition (ISO 10889-6:1997), Table 3 of which has been technically revised.

ISO 10889 consists of the following parts, under the general title *Tool holders with cylindrical shank*:

— *Part 1: Cylindrical shank, location bore — Technical delivery conditions*

— *Part 2: Type A, shanks for tool holders of special designs*

— *Part 3: Type B with rectangular radial seat*

— *Part 4: Type C with rectangular axial seat*

— *Part 5: Type D with more than one rectangular seat*

— *Part 6: Type E with cylindrical seat*

— *Part 7: Type F with taper seat*

— *Part 8: Type Z, accessories*

Tool holders with cylindrical shank —

Part 6:
Type E with cylindrical seat

1 Scope

ISO 10889 is applicable to tool holders with cylindrical shank for machine tools with non-rotating tools, preferably for turning machines.

This part of ISO 10889 specifies dimensions, designations and complementary technical delivery conditions for tool holders with cylindrical seat of types E1 to E4 with a mounting system cylindrical shank in accordance with ISO 10889-1. For non-standardized tool holders such as tool holders with a cylindrical seat as shown in the figures, it is advisable to apply the corresponding specifications of this part of ISO 10889.

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

ISO 10889-1, *Tool holders with cylindrical shank — Part 1: Cylindrical shank, location bore — Technical delivery conditions*

ISO 10897, *Collets for tool holders with taper ratio 1:10 — Collets, holders, nuts*

ISO 15488, *Collets with 8° setting angle for tool shanks — Collets, nuts and fitting dimensions*

3 Dimensions

3.1 General

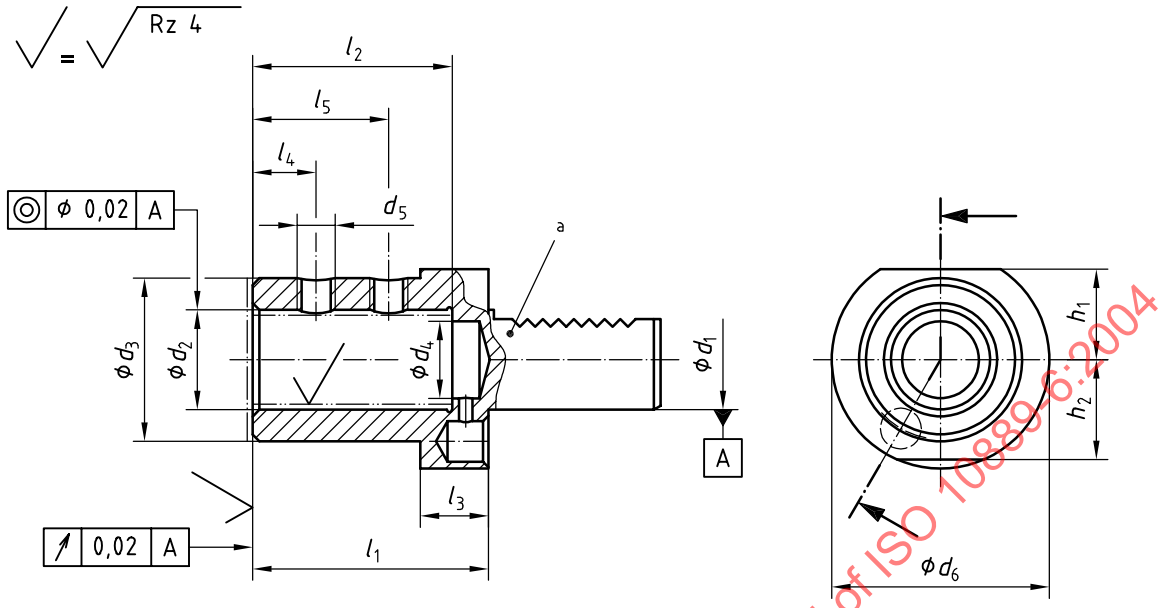
Unspecified details shall be chosen appropriately.

General tolerances: ISO 2768-mH.

3.2 Tool holder of type E1

See Figure 1 and Table 1.

Dimensions in millimetres,
surface roughness in micrometres



a Cylindrical shank in accordance with ISO 10889-1.

Figure 1 — Type E1 tool holder for drilling tools with internal coolant supply

Table 1 — Type E1 tool holder dimensions

Dimensions in millimetres

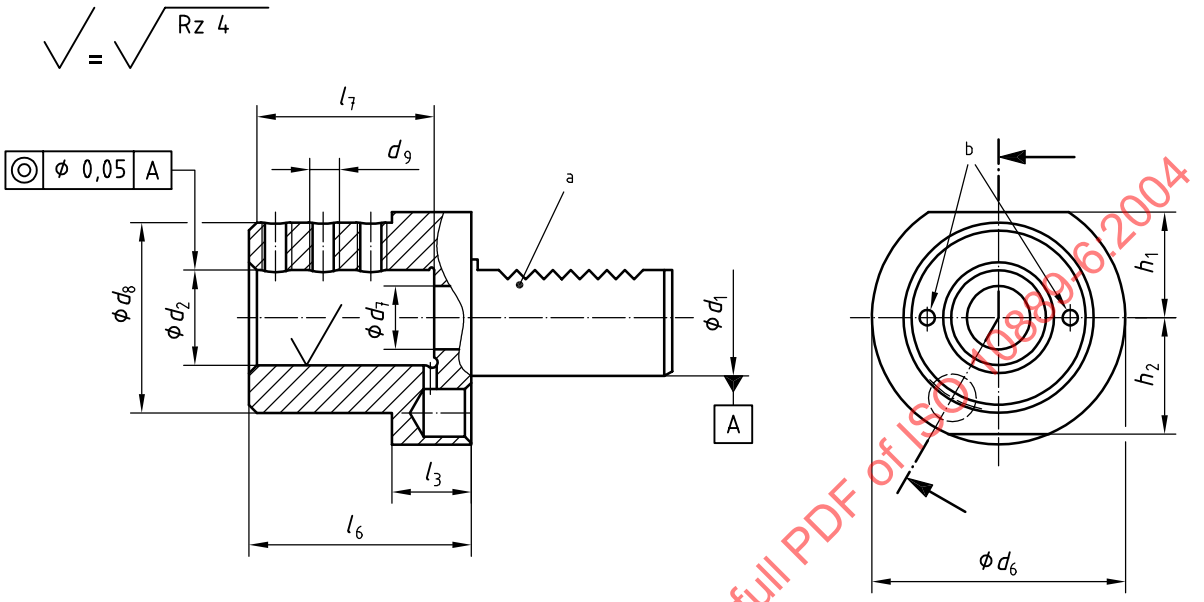
d_1	d_2 H6	d_3	d_4[a]	d_5	d_6	h_1	h_2	l_1 $^{0}_{-0,2}$	l_2	l_3	l_4	l_5
20	20	40	12	M10 × 1	50	—	23	67	54	18	15	35
	25	45	17	M12 × 1				71	59		17	40
25	20	40	12	M10 × 1	58	25	25	67	54	18	15	35
	25	45	17	M12 × 1				71	59		17	40
30	20	40	12	M10 × 1	68	28	30	67	54	22	15	35
	25	45	17	M12 × 1				71	59		17	40
	32	52	24					75	63		17	44
40	20	40	12	M10 × 1	83	32,5	—	67	54	22	15	35
	25	45	17	M12 × 1				75	59		17	40
	32	52	24					75	63		17	44
	40	65	32	M16 × 1				90	73		22	50
50	20	40	12	M10 × 1	98	35	—	67	54	30	15	35
	25	45	17	M12 × 1				80	59		17	40
	32	52	24					80	63		17	44
	40	65	32	M16 × 1				90	73		22	50
	50	75	42					100	83		24	60
60	20	40	12	M10 × 1	123	42,5	—	80	54	30	15	35
	25	45	17	M12 × 1				80	59		17	40
	32	52	24					80	63		17	44
	40	65	32	M16 × 1				90	73		22	50
	50	75	42					100	83		24	60
80	20	40	12	M10 × 1	158	55	—	80	54	30	15	35
	25	45	17	M12 × 1				80	59		17	40
	32	52	24					80	63		17	44
	40	65	32	M16 × 1				90	73		22	50
	50	75	42					100	83		24	60

[a] d_4 shall be pilot-drilled for manufacturing reasons.

3.3 Tool holder of type E2

See Figure 2 and Table 2.

Dimensions in millimetres,
surface roughness in micrometres



a Cylindrical shank in accordance with ISO 10889-1.

b External coolant supply (closable).

Figure 2 — Type E2 tool holder for turning tools with cylindrical shank

Table 2 — Type E2 tool holder dimensions

Dimensions in millimetres

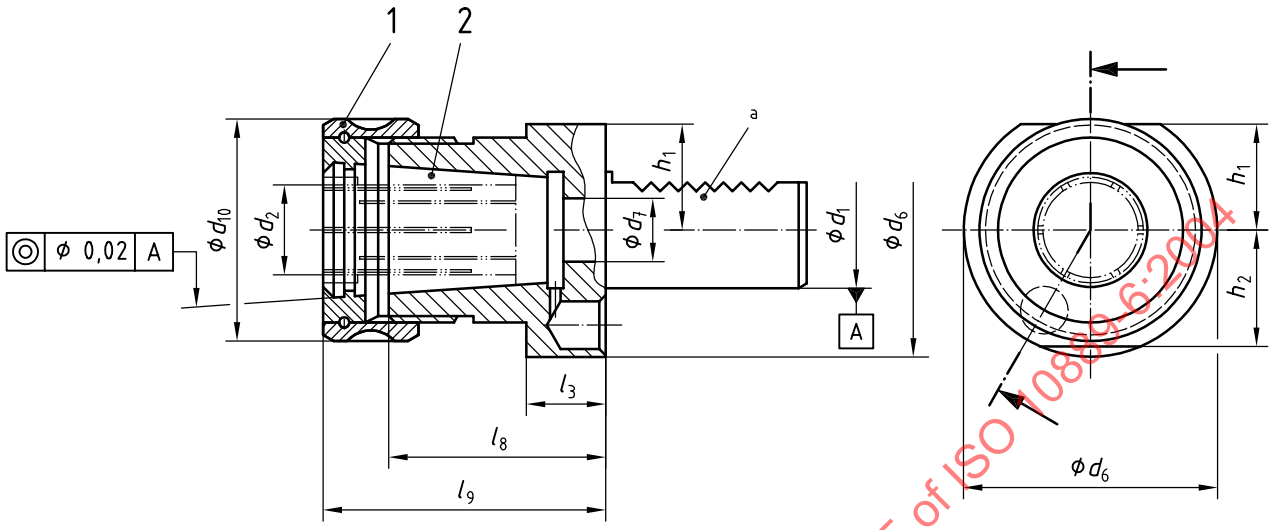
d_1	d_2 H7	d_6	d_7 min.	d_8	d_9[a]	h_1	h_2	l_3	l_6	l_7
16	6	40	6,7	32	M6	18	18	13	44	34
	8									
	10									
	12			40	M8					
	16									
20	8	50	9	40	M6	—	23	18	50	41
	10									
	12				M8					
	16									
	20			50						
	25								60	51
25	8	58	10,5	40	M6	25	25	18	50	41
	10									
	12				M8					
	16									
	20			58						
	25								60	51
30	8	68	16,5	55	M6	28	30	22	60	51
	10									
	12				M8					
	16									
	20									
	25									
	32			68					75	61
40	12	83	20,5	55	M8	32,5	—	22	75	61
	16				M10					
	20									
	25									
	32			83						
	40								90	76
50	16	98	25,5	68	M10	35	—	30	90	76
	20									
	25				M12					
	32									
	40			98						
	50								100	86
60	16	123	40,5	68	M10	42,5	—	30	90	76
	20									
	25				M12					
	32									
	40			98						
	50								100	86
80	20	158	40,5	68	M12	55	—	30	100	86
	25									
	32									
	40			98						
	50									

[a] For d_1 = 20 mm: at least two fastening threads; other sizes at least three fastening threads.

3.4 Tool holder of type E3

See Figure 3 and Table 3.

Dimensions in millimetres



Key

1 nut, form D, in accordance with ISO 10897

2 collet, form C, in accordance with ISO 10897

a Cylindrical shank in accordance with ISO 10889-1.

Figure 3 — Type E3 tool holder with cylindrical seat by collet in accordance with ISO 10897

Table 3 — Type E3 tool holder dimensions

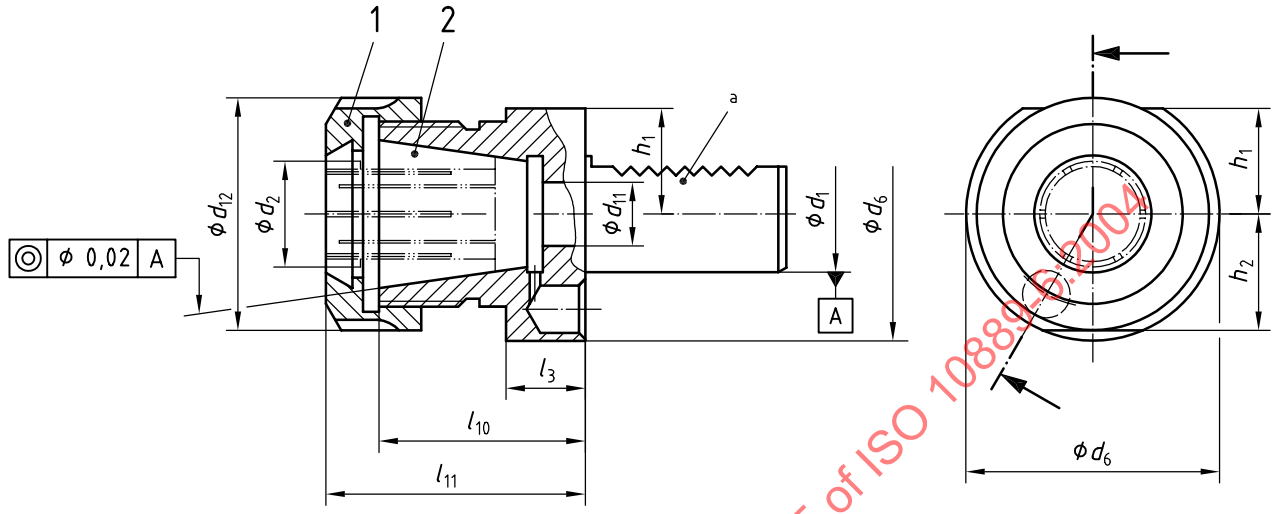
Dimensions in millimetres

d_1	Nominal size for collet and nut	d_2 Clamping range of collet in accordance with ISO 10897		d_6	d_7	d_{10}	h_1	h_2	l_3	l_8	l_9
		Form A	Form B		min.	max.					max.
16	12	1 to 12	—	40	6,7	35	18	18	13	36	45,5
20	16	2 to 16	5 to 16	50	9	43	—	23	18	42	57
	20	2 to 20	6 to 20			50				46	62
25	16	2 to 16	5 to 16	58	10,5	43	25	25	18	42	57
	20	2 to 20	6 to 20			50				46	62
30	16	2 to 16	5 to 16	68	16,5	43	28	30	22	42	57
	25	2 to 25	6 to 25			60				59	75
40	25	2 to 25	6 to 25	83	20,5	60	32,5	—	22	59	75
	32	4 to 32	10 to 32			72				73	90
50	25	2 to 25	6 to 25	98	25,5	60	35	—	30	59	75
	32	4 to 32	10 to 32			72				73	90
60	25	2 to 25	6 to 25	123	40,5	60	42,5	—	30	59	75
	32	4 to 32	10 to 32			72				73	90
	40	6 to 29,5	30 to 40			85				82	100
80	40	6 to 29,5	30 to 40	158	40,5	85	55	—	40	82	100

3.5 Tool holder of type E4

See Figure 4 and Table 4.

Dimensions in millimetres



Key

1 nut, form D, in accordance with ISO 15488
2 collet, form C, in accordance with ISO 15488

a Cylindrical shank in accordance with ISO 10889-1.

Figure 4 — Type E4 tool holder with cylindrical seat by collet in accordance with ISO 15488

Table 4 — Type E4 tool holder dimensions

Dimensions in millimetres

d_1	Nominal size for collet and nut	d_2 Clamping range of collet in accordance with ISO 15488		d_6	d_{11}	d_{12}	h_1	h_2	l_3	l_{10}	l_{11}
		Form A	Form B		min.	max.					max.
16	20	1 to 13	1 to 13	40	6,7	35	18	18	13	32,5	44
20	25	1 to 16	2 to 16	50	9	42	—	23	18	38	50
	32	2 to 20	3 to 20			50				49,5	62
25	25	1 to 16	2 to 16	58	10,5	42	25	25	18	45	57
	32	2 to 20	3 to 20			50				49,5	62
30	25	1 to 16	2 to 16	68	16,5	42	28	30	22	45	57
	40	3 to 26	4 to 26			63				56	70
40	32	2 to 20	3 to 20	83	20,5	50	32,5	—	22	49,5	62
	40	3 to 26	4 to 26			63				61	75
50	40	3 to 26	4 to 26	98	25,5	63	35	—	30	61	75
60	40	3 to 26	4 to 26	123	28,5	63	42,5	—	30	61	75
80	40	3 to 26	4 to 26	158	28,5	63	55	—	40	61	75