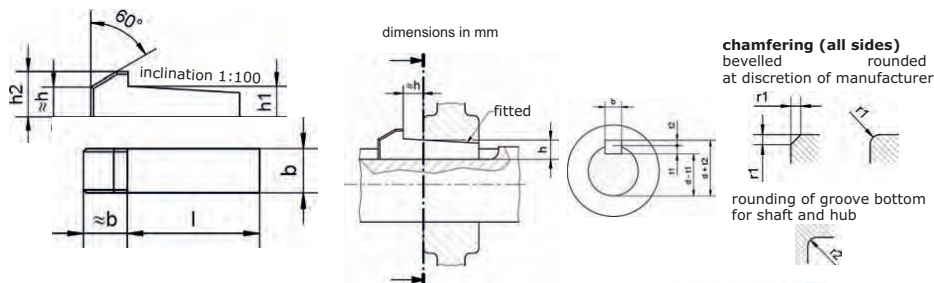


Taper keys with gib head to DIN 6887



Example for ordering: Taper key with gib head according to DIN 6887:
 b = 10 mm, h = 8 mm, l = 50 mm;
 Order number: 10 30 1008 0500



mbo standard 30

Order number ⁴⁾	Key width b	Key height h	For shaft diameter d ¹⁾		Key height		Gip height h _z	Groove width b	Shaft groove depth		Hub groove depth		Bevelled/ rounded		Rounding of groove bottom		Länge mm		
			Above	Up to	h ₁	Admiss. diff.			D ₁₀	t ₁ ²⁾	Admiss. diff.	t ₂ ²⁾	Admiss. diff.	Min.	Max.	Max.	Min.	From	Up to
10 30 0404	4	4	10	12	4.1	-0.1	7	4	2.5	+0.1	1.2	+0.1	0.16	0.25	0.16	0.08	14	45	-0.2/-0.3
10 30 0505	5	5	12	17	5.1	-0.1	8	5	3	+0.1	1.7	+0.1	0.25	0.4	0.25	0.16	14	56	-0.2/-0.3
10 30 0606	6	6	17	22	6.1	-0.1	10	6	3.5	+0.1	2.2	+0.1	0.25	0.4	0.25	0.16	16	70	-0.2/-0.3
10 30 0807	8	7	22	30	7.2	-0.2	11	8	4	+0.2	2.4	+0.2	0.25	0.4	0.25	0.16	20	90	-0.2/-0.5
10 30 1008	10	8	30	38	8.2	-0.2	12	10	5	+0.2	2.4	+0.2	0.4	0.6	0.4	0.25	25	110	-0.2/-0.5
10 30 1208	12	8	38	44	8.2	-0.2	12	12	5	+0.2	2.4	+0.2	0.4	0.6	0.4	0.25	32	140	-0.3/-0.5
10 30 1409	14	9	44	50	9.2	-0.2	14	14	5.5	+0.2	2.9	+0.2	0.4	0.6	0.4	0.25	40	160	-0.3/-0.5
10 30 1610	16	10	50	58	10.2	-0.2	16	16	6	+0.2	3.4	+0.2	0.4	0.6	0.4	0.25	45	180	-0.3/-0.5
10 30 1811	18	11	58	65	11.2	-0.2	18	18	7	+0.2	3.4	+0.2	0.4	0.6	0.4	0.25	50	200	-0.3/-0.5
10 30 2012	20	12	65	75	12.2	-0.2	20	20	7.5	+0.2	3.9	+0.2	0.6	0.8	0.6	0.4	56	220	-0.3/-0.5
10 30 2214	22	14	75	85	14.2	-0.2	22	22	9	+0.2	4.4	+0.2	0.6	0.8	0.6	0.4	63	250	-0.3/-0.5
10 30 2514	25	14	85	95	14.2	-0.2	22	25	9	+0.2	4.4	+0.2	0.6	0.8	0.6	0.4	70	280	-0.3/-0.5
10 30 2816	28	16	95	110	16.2	-0.2	25	28	10	+0.2	5.4	+0.2	0.6	0.8	0.6	0.4	80	320	-0.3/-0.5
10 30 3218	32	18	110	130	18.3	-0.2	28	32	11	+0.2	6.4	+0.2	0.6	0.8	0.6	0.4	90	360	-0.5
10 30 3620	36	20	130	150	20.4	-0.3	32	36	12	+0.3	7.1	+0.3	1	1.2	1	0.7	100	400	-0.5
10 30 4022	40	22	150	170	22.4	-0.3	36	40	13	+0.3	8.1	+0.3	1	1.2	1	0.7	110	400	-0.5
10 30 4525	45	25	170	200	25.4	-0.3	40	45	15	+0.3	9.1	+0.3	1	1.2	1	0.7	125	400	-0.5
10 30 5028	50	28	200	230	28.4	-0.3	45	50	17	+0.3	10.1	+0.3	1	1.2	1	0.7	140	400	-0.5
10 30 5632	56	32	230	260	32.5	-0.3	50	56	20	+0.3	11.1	+0.3	1.6	2	1.6	1.2			
10 30 6332	63	32	260	290	32.5	-0.3	50	63	20	+0.3	11.1	+0.3	1.6	2	1.6	1.2			
10 30 7036	70	36	290	330	36.5	-0.3	56	70	22	+0.3	13.1	+0.3	1.6	2	1.6	1.2			
10 30 8040	80	40	330	380	40.5	-0.3	63	80	25	+0.3	14.1	+0.3	2.5	3	2.5	2			
10 30 9045	90	45	380	440	45.6	-0.3	70	90	28	+0.3	16.1	+0.3	2.5	3	2.5	2			
10 30 0050	100	50	440	500	50.6	-0.3	80	100	31	+0.3	18.1	+0.3	2.5	3	2.5	2			

¹⁾ For connection dimensions, in particular of shaft ends, the allocation of the key cross-section to the shaft diameters must be maintained without fail.
²⁾ Please comply with the requirements of DIN 6887.
³⁾ Intermediate lengths outside DIN 6887 must be selected according to DIN 3. Please comply with the requirements of DIN 6887.
⁴⁾ The last four digits are intended to show the length l. Please indicate l expressly.

Material:

St 60 - 1

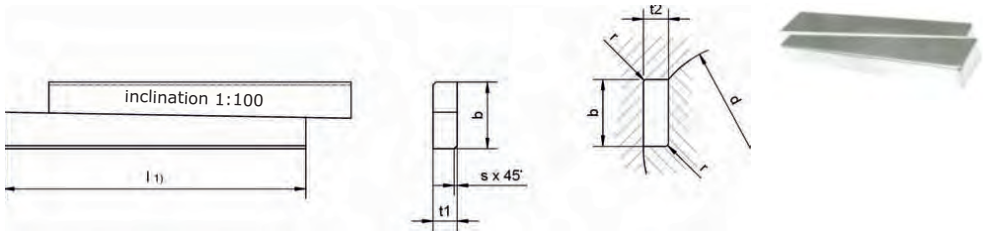
Special steels/stainless steel on request

Special versions on request



Tangential keys to DIN 268

for alternating shock loads



¹⁾ The length l depends on the design and must be quoted.
It is recommended that a length of about 10 to 15% more than the hub length is selected.

Example for ordering: Tangential key according to DIN 268; $b = 60$ mm, $t_1 = 20$ mm, $l = 120$ mm;

Order number: 10 31 0600 1200

mbo standard 31

Order number	b Calculated	t_1 h11	Key		Groove				For shaft diameter d
			Min.	Max.	t_2 Admiss. diff.	Max.	r Min.		
10 31 0000 0010	30	10	1	1.2	10.3	+ 0.2	1	0.7	100
10 31 0000 0011	33	11			11.4	0			110
10 31 0000 0012	36	12			12.4	120			
10 31 0000 0125	37.5	12.5			12.9	125			
10 31 0000 0013	39	13			13.4	130			
10 31 0000 0014	42	14			14.4	140			
10 31 0000 0015	45	15			15.4	150			
10 31 0000 0016	48	16			16.4	160			
10 31 0000 0017	51	17			17.4	170			
10 31 0000 0018	54	18			18.4	180			
10 31 0000 0019	57	19	19.4	+ 0.3 0	1.6	1.2	190		
10 31 0000 0020	60	20	20.4				200		
10 31 0000 0022	66	22	22.4				220		
10 31 0000 0024	72	24	24.4				240		
10 31 0000 0025	75	25	25.4	2.5	2	250			
10 31 0000 0026	78	26	26.4			260			
10 31 0000 0028	84	28	28.4			280			
10 31 0000 0030	90	30	30.4			300			
10 31 0000 0032	96	32	32.4			320			
10 31 0000 0034	102	34	34.4			340			
10 31 0000 0036	108	36	36.4			360			
10 31 0000 0038	114	38	38.4			380			
10 31 0000 0040	120	40	40.4			400			
10 31 0000 0042	126	42	42.4			420			
10 31 0000 0044	132	44	44.4	+ 0.3 0	3	2.5	440		
10 31 0000 0045	135	45	45.4				450		
10 31 0000 0046	138	46	46.4				460		
10 31 0000 0048	144	48	48.4				480		
10 31 0000 0050	150	50	50.5				500		
10 31 0000 0053	159	53	53.5				530		
10 31 0000 0056	168	56	56.5				560		
10 31 0000 0060	180	60	60.5				600		
10 31 0000 0063	189	63	63.5				630		

¹⁾ the last four digits are intended to show the length l ; please indicate length l expressly

Material: E 335

Special steels/stainless steel on request

Special versions on request

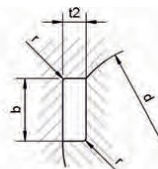
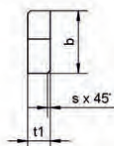
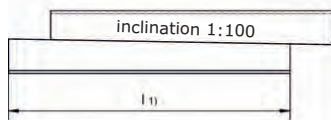


With shaft diameters between those listed in the table, it is recommended that the wedge thickness t_1 of the next shaft diameter down be selected. The width b is calculated from: $b = \sqrt{t_1 \cdot (d - t_1)}$.

For shaft diameters of above 630 mm we recommend: $t_1 = 0.1d$, $b = 0.3d$.

If no alternating shock loads occur, tangential keys to DIN 271 are recommended. The 125 mm shaft diameter to the ISO recommendation R 775 and the planned ISO recommendation on tangential keys is not included in DIN 748 Sheet 1.

Tangential keys to DIN 271 for constant loads



- ¹⁾ The length l depends on the design and must be quoted.
It is recommended that a length of about 10 to 15% more than the hub length is selected.

Example for ordering: Tangential key according to DIN 271; $b = 33.9$ mm, $t_1 = 10$ mm, $l = 100$ mm

Order number: 10 32 0339 1000

mbo standard 32

Order number - in pairs - ²⁾	b Calculated	Key			Groove			For shaft diameter d
		t_1 h11	Min.	s Max.	t_2 Admiss. diff.	Max.	r Min.	
10 32 0193	19.3	7			7.3			60
10 32 0198	19.8							63
10 32 0202	20.2							65
10 32 0210	21	8	0.6	0.8	8.3	0.6	0.4	70
10 32 0225	22.5							71
10 32 0232	23.2							75
10 32 0240	24	9			9.3			80
10 32 0248	24.8							85
10 32 0256	25.6							90
10 32 0278	27.8	10	1	1.2	10.3	1	0.7	95
10 32 0286	28.6							100
10 32 0301	30.1							110
10 32 0332	33.2	11			11.4			120
10 32 0339	33.9							125
10 32 0346	34.6							130
10 32 0377	37.7	12	1	1.2	12.4	1	0.7	140
10 32 0391	39.1							150
10 32 0421	42.1							160
10 32 0435	43.5	14			14.4			170
10 32 0449	44.9							180
10 32 0496	49.6							190
10 32 0510	51	16	1.6	2	16.4	1.6	1.2	200
10 32 0571	57.1							220
10 32 0599	59.9							240
10 32 0646	64.6	18			18.4			250
10 32 0660	66							260
10 32 0721	72.1							280
10 32 0748	74.8	20			20.4			300
10 32 0810	81							320
10 32 0836	83.6							340
10 32 0932	93.2	22	2.5	3	22.4	2.5	2	360
10 32 0956	95.9							380
10 32 0986	98.6							400
10 32 1082	108.2	26			26.4			420
10 32 1109	110.9							440
10 32 1123	112.3							450
10 32 1136	113.6	30			30.4			460
10 32 1231	123.1							480
10 32 1259	125.9							500
10 32 1367	136.7	34	3	4	34.4	3	2.5	530
10 32 1408	140.8							560
10 32 1531	153.1							600
10 32 1571	157.1	42			42.4			630

¹⁾ the last four digits are intended to show the length l ; please indicate length l expressly

Material: E 335

Special steels/stainless steel on request
Special versions on request



With shaft diameters between those listed in the table, it is recommended that the wedge thickness t_1 of the next shaft diameter up be selected. The width b is calculated from: $b = \sqrt{t_1 \cdot (d - t_1)}$.

For shaft diameters of above 630 mm we recommend: $t_1 = 0.07 d$, $b = 0.25 d$.

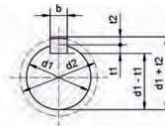
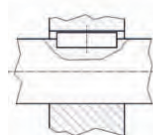
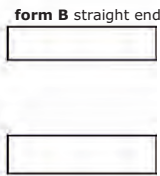
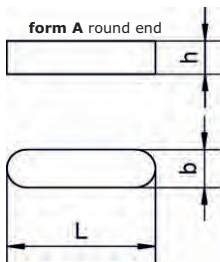
If alternating shock loads occur, tangential keys to DIN 268 are recommended for the 100 mm shaft diameters.

The 63, 71 and 125 shaft diameters to the ISO recommendation R 775 and the planned ISO recommendation on tangential keys are not included in DIN 748 Sheet 1.

20_03
01/2007

Parallel keys to DIN 6885

high form



chamfering (all sides)
bevelled
at discretion of manufacturer

rounding of groove bottom
for shaft and hub



Example for ordering: Parallel key according to DIN 6885, high-sized version;
b = 6 mm, h = 7.5 mm, L = 70 mm, form A round-ended;
Order number: 10 37 1008 0700

Form C to Form J on request

mbo standard 37

Order number ¹⁾²⁾	Width b	Height h	For shaft diameter d ₁		Shaft groove			Hub groove				d ₂ Minimum dimension	Bevelled/rounded r ₁		Rounding of groove bottom r ₂		Length L				
			Above	Up to	Width b	Depth t ₁	Width b	Depth t ₂			Min.		Max.	Min.	Max.	From	Up to	Admiss. diff. Key	Groove		
					With back clearance	Or oversize admiss. diff.		Admiss. diff.	With oversize	Admiss. diff.										d ₁ ⁻¹⁾	
.. 37 0202	2	2	6	8	2	1.2	+0.1	2	1	+0.1	0.5	+0.1	2.5	0.16	0.25	0.16	0.08	6	20	-0.2	+0.2
.. 37 0303	3	3	8	10	3	1.8	+0.1	3	1.4	+0.1	0.9	+0.1	3.5	0.16	0.25	0.16	0.08	6	36	-0.2	+0.2
.. 37 0404	4	4	10	12	4	2.5	+0.1	4	1.8	+0.1	1.2	+0.1	4	0.16	0.25	0.16	0.08	8	45	-0.2	+0.2
.. 37 0505	5	5	12	17	5	3	+0.1	5	2.3	+0.1	1.7	+0.1	5	0.25	0.4	0.25	0.16	10	56	-0.2	+0.2
.. 37 0606	6	6	17	22	6	3.5	+0.1	6	2.8	+0.1	2.2	+0.1	6	0.25	0.4	0.25	0.16	14	70	-0.2	+0.2
.. 37 0807	8	7	22	30	8	4	+0.2	8	3.3	+0.2	2.4	+0.2	8	0.25	0.4	0.25	0.16	18	90	-0.2	+0.2
.. 37 1008	10	8	30	38	10	5	+0.2	10	3.3	+0.2	2.4	+0.2	8	0.4	0.6	0.4	0.25	22	110	-0.2	+0.2
.. 37 1208	12	8	38	44	12	5	+0.2	12	3.3	+0.2	2.4	+0.2	8	0.4	0.6	0.4	0.25	28	140	-0.2	+0.2
.. 37 1409	14	9	44	50	14	5.5	+0.2	14	3.8	+0.2	2.9	+0.2	9	0.4	0.6	0.4	0.25	36	160	-0.2	+0.2
.. 37 1610	16	10	50	58	16	6	+0.2	16	4.3	+0.2	3.4	+0.2	11	0.4	0.6	0.4	0.25	45	180	-0.2	+0.2
.. 37 1811	18	11	58	65	18	7	+0.2	18	4.4	+0.2	3.4	+0.2	11	0.4	0.6	0.4	0.25	50	200	-0.2	+0.2
.. 37 2012	20	12	65	75	20	7.5	+0.2	20	4.9	+0.2	3.9	+0.2	12	0.6	0.8	0.6	0.4	56	220	-0.2	+0.2
.. 37 2214	22	14	75	85	22	9	+0.2	22	5.4	+0.2	4.4	+0.2	14	0.6	0.8	0.6	0.4	63	250	-0.2	+0.2
.. 37 2514	25	14	85	95	25	9	+0.2	25	5.4	+0.2	4.4	+0.2	14	0.6	0.8	0.6	0.4	70	280	-0.2	+0.2
.. 37 2816	28	16	95	110	28	10	+0.2	28	6.4	+0.2	5.4	+0.2	16	0.6	0.8	0.6	0.4	80	320	-0.2	+0.2
.. 37 3218	32	18	110	130	32	11	+0.2	32	7.4	+0.2	6.4	+0.2	18	0.6	0.8	0.6	0.4	90	360	-0.5	+0.5
.. 37 3620	36	20	130	158	36	12	+0.3	36	8.4	+0.3	7.1	+0.3	21	1	1.2	1	0.7	100	400	-0.5	+0.5
.. 37 4022	40	22	150	170	40	13	+0.3	40	9.4	+0.3	8.1	+0.3	23	1	1.2	1	0.7	110	400	-0.5	+0.5
.. 37 4525	45	25	170	200	45	15	+0.3	45	10.4	+0.3	9.1	+0.3	26	1	1.2	1	0.7	125	400	-0.5	+0.5
.. 37 5028	50	28	200	230	50	17	+0.3	50	11.4	+0.3	10.1	+0.3	28	1	1.2	1	0.7	140	400	-0.5	+0.5
.. 37 5632	56	32	230	260	56	20	+0.3	56	12.4	+0.3	11.1	+0.3	32	1.6	2	1.6	1.2	160	400	-0.5	+0.5
.. 37 6332	63	32	260	290	63	20	+0.3	63	12.4	+0.3	11.1	+0.3	32	1.6	2	1.6	1.2	180	400	-0.5	+0.5
.. 37 7036	70	36	290	330	70	22	+0.3	70	14.4	+0.3	13.1	+0.3	36	1.6	2	1.6	1.2	200	400	-0.5	+0.5
.. 37 8040	80	40	330	380	80	25	+0.3	80	15.4	+0.3	14.1	+0.3	40	2.5	3	2.5	2	220	400	-0.5	+0.5
.. 37 9045	90	45	380	440	90	28	+0.3	90	17.4	+0.3	16.1	+0.3	45	2.5	3	2.5	2	250	400	-0.5	+0.5
.. 37 0050	100	50	440	500	100	31	+0.3	100	19.5	+0.3	18.1	+0.3	50	2.5	3	2.5	2	280	400	-0.5	+0.5

¹⁾ The last four digits are intended to show the length L. Please indicate length L expressly.

²⁾ The two first digits indicate: 10 = form A (round end) and 11 = form B (straight end). Please indicate this expressly.

Material:

for parallel key heights h up to 25 mm: St 50-1 K

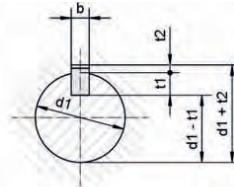
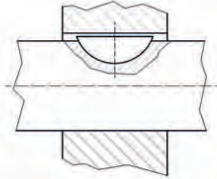
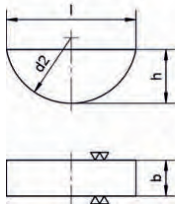
for parallel key heights h above 25 mm: St 60-2

Other materials on request

Special versions on request

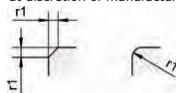
20_04
01/2007

Woodruff keys to DIN 6888



chamfering (all sides)
bevelled rounded
at discretion of manufacturer

rounding of groove bottom
for shaft and hub



Example for ordering: Woodruff key according to DIN 6888, b = 6 mm, h = 7.5 mm, row A;

Order number: 10 34 0060 0075

mbo standard 34

Order number ⁷⁾	Width b	Height h	For shaft diameter d ₁ ¹⁾				Diameter d ₂	Bevelled/ rounded	Length l =	Shaft groove				Hub groove				Rounding of groove bottom					
			Allocation I		Allocation II					Admiss. diff.	r ₁	Admiss. diff.	Width Firm seat PG Loose seat NG b ²⁾	Depth t ₁ ³⁾	Dia- meter d ₂ +0.5	Width Firm seat PG Loose seat NG b ²⁾	Depth l ₂ ³⁾		r ₂	Admiss. diff.			
			Above	Up to	Above	Up to											Row A ⁴⁾	Row B ⁵⁾			Diff. for A	Diff. for B	
.. 34 0010 0014	1	1.4	3	4	6	8	4	-0.1	0.2	+0.1	3.82	1	1	+0.1	4	1	0.6	0.6	+0.1	+0.1	0.2	-0.1	
.. 34 0015 0026	1.5	2.6	4	6	8	10	7	-0.1	0.2	+0.1	6.76	1.5	2	2	+0.1	7	1.5	0.8	0.8	+0.1	+0.1	0.2	-0.1
.. 34 0020 0026	2	2.6	6	8	10	12	7	-0.1	0.2	+0.1	6.76	2	1.8	1.8	+0.1	7	2	1	1	+0.1	+0.1	0.2	-0.1
.. 34 0020 0037	2	3.7	6	8	10	12	10	-0.1	0.2	+0.1	9.66	2	2.9	2.9	+0.1	10	2	1	1	+0.1	+0.1	0.2	-0.1
.. 34 0025 0037	2.5*	3.7	8	10	12	17	10	-0.1	0.2	+0.1	9.66	2.5	2.9	2.9	+0.1	10	2.5	1	1	+0.1	+0.1	0.2	-0.1
.. 34 0030 0037	3	3.7	8	10	12	17	10	-0.1	0.2	+0.1	9.66	3	2.5	2.8	+0.1	10	3	1.4	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0030 0050	3	5	8	10	12	17	13	-0.1	0.2	+0.1	12.65	3	3.8	4.1	+0.1	13	3	1.4	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0030 0065	3	6.5	—	—	12	17	16	-0.1	0.2	+0.1	15.72	3	5.3	5.6	+0.1	16	3	1.4	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0040 0050	4	5	10	12	17	22	13	-0.1	0.2	+0.1	12.65	4	3.5	4.1	+0.1	13	4	1.7	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0040 0065	4	6.5	10	12	17	22	16	-0.1	0.2	+0.1	15.72	4	5	5.6	+0.1	16	4	1.7	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0040 0075	4	7.5	—	—	17	22	19	-0.1	0.2	+0.1	18.57	4	6	6.6	+0.1	19	4	1.7	1.1	+0.1	+0.1	0.2	-0.1
.. 34 0050 0065	5	6.5	12	17	22	30	16	-0.1	0.2	+0.1	15.72	5	4.5	5.4	+0.1	16	5	2.2	1.3	+0.1	+0.1	0.2	-0.1
.. 34 0050 0075	5	7.5	12	17	22	30	19	-0.1	0.2	+0.1	18.57	5	5.5	6.4	+0.1	19	5	2.2	1.3	+0.1	+0.1	0.2	-0.1
.. 34 0050 0090	5	9	—	—	22	30	22	-0.1	0.2	+0.1	21.63	5	7	7.9	+0.2	22	5	2.2	1.3	+0.1	+0.1	0.2	-0.1
.. 34 0060 0075	6	7.5	17	22	30	38	19	-0.1	0.4	+0.2	18.57	6	5.1	6	+0.1	19	6	2.6	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0060 0090	6	9	17	22	30	38	22	-0.1	0.4	+0.2	21.63	6	6.6	7.5	+0.1	22	6	2.6	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0060 0100	6	(10)	17	22	30	38	25	-0.2	0.4	+0.2	24.49	6	7.6	8.5	+0.2	25	6	2.6	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0060 0110	6	11	—	—	30	38	28	-0.2	0.4	+0.2	27.35	6	8.6	9.5	+0.2	28	6	2.6	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0080 0090	8	9	22	30	38	—	22	-0.1	0.4	+0.2	21.63	8	6.2	7.5	+0.2	22	8	3	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0080 0110	8	11	22	30	38	—	28	-0.2	0.4	+0.2	27.35	8	8.2	9.5	+0.2	28	8	3	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0080 0130	8	13	—	—	38	—	32	-0.2	0.4	+0.2	31.43	8	10.2	11.5	+0.2	32	8	3	1.7	+0.1	+0.1	0.4	-0.2
.. 34 0100 0110	10	11	30	38	38	—	28	-0.2	0.4	+0.2	27.35	10	7.8	9.1	+0.2	28	10	3.4	2.1	+0.2	+0.1	0.4	-0.2
.. 34 0100 0130	10	13	30	38	38	—	32	-0.2	0.4	+0.2	31.43	10	9.8	11.1	+0.2	32	10	3.4	2.1	+0.2	+0.1	0.4	-0.2
.. 34 0100 0160	10	16	—	—	38	—	45	-0.2	0.4	+0.2	43.08	10	12.8	14.1	+0.2	45	10	3.4	2.1	+0.2	+0.1	0.4	-0.2

* only for motor vehicle construction

¹⁾ For connection dimensions, in particular of shaft ends, the allocation of the Woodruff key cross-sections to the shaft diameters must be maintained. Allocation I applies wherever the Woodruff keys are used like parallel keys, i.e. to transmit the entire torque.

Allocation II applies wherever the Woodruff key is used only for fixing the position of the drive element and for transmitting the torque of other elements, e.g. cotter or taper.

²⁾ The admissible differences for the groove widths apply only as a guideline. It is recommended to comply with ISA grade IT 8 instead of IT 9 for the widths of reamed grooves (i.e. P 8 instead of P 9. N 8 instead of N 9 and J 8 instead of J 9).

³⁾ In the shop drawings, the dimensions t1 and (d1 - t1) plus t2 and (d1 + t2) can be entered adjacently to one another, however in many cases the dimensions t1 and (d1 + t2) are sufficient. It may be necessary here to take into account the admissible differences and machining allowances of shaft and hub bore.

⁴⁾ Use row A (high hub groove) for preference, conforms to DIN 6885 Sheet 1 (t2 with back clearance).

⁵⁾ Row B (low hub groove) for machine tools, conforms to DIN 6885 Sheet 2.

⁶⁾ With allocation II of the Woodruff keys to the shaft diameters the tolerance field D 10 can also be selected.

⁷⁾ The two first digits indicate: 10 = row A (high hub groove) and 11 = row B (low hub groove). Please indicate this expressly.

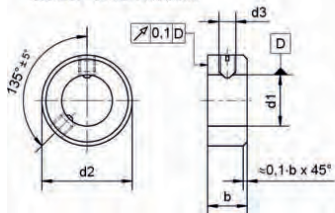
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Special versions on request
Other materials on request

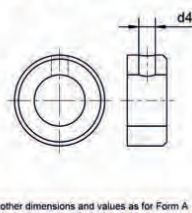
Material: St 60

Set collars to DIN 705

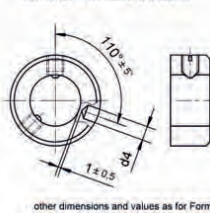
Form A
up to d1 = 70 with 1 setscrew
above d1 = 70 with 2 setscrews



Form B
only up to d1 = 150



Form C 1)
up to d1 = 70 with 1 setscrew
above d1 = 70 with 2 setscrews



mbo-Norm 36

d1 H8 ²⁾		Order number	b	d2	d3	d4	Setscrew ⁵⁾	Optional		Weight (7 85 kg/dm ³) kg/1000 pieces ≈	Form B	
Row 1 ³⁾	Row 2 ⁴⁾							Grooved pin DIN 1471 ⁶⁾	Taper pin DIN 1 ⁷⁾		Form A	Form C
2		10 36 0000 0020	3,5	6	M 2	0,6	M 2 x 3	—	0,6 x 6	0,069	0,065	
2,5		10 36 0000 0025	4	7	M 2	0,8	M 2 x 3	—	0,8 x 6	0,105	0,096	
3		10 36 0000 0030	5	7	M 2	0,8	M 2 x 3	—	0,8 x 6	0,123	0,115	
	3,5	10 36 0000 0035	5	8	M 2,5	1	M 2,5 x 3	—	1 x 8	0,162	0,155	
4		10 36 0000 0040	5	8	M 2,5	1	M 2,5 x 3	—	1 x 8	0,152	0,145	
	4,5	10 36 0000 0045	6	10	M 3	1,5	M 3 x 4	1,5 x 10	1,5 x 10	0,296	0,289	
5		10 36 0000 0050	6	10	M 3	1,5	M 3 x 4	1,5 x 10	1,5 x 10	0,28	0,273	
	5,5	10 36 0000 0055	6	12	M 4	1,5	M 4 x 5	1,5 x 12	1,5 x 12	0,432	0,414	
6		10 36 0000 0060	8	12	M 4	1,5	M 4 x 5	1,5 x 12	1,5 x 12	0,548	0,526	
	7	10 36 0000 0070	8	12	M 4	1,5	M 4 x 5	1,5 x 12	1,5 x 12	0,488	0,464	
8		10 36 0000 0080	8	16	M 4	2	M 4 x 6	2 x 16	2 x 16	0,94	0,92	
10		10 36 0000 0100	10	20	M 5	3	M 5 x 8	3 x 20	3 x 20	1,85	1,8	
12		10 36 0000 0120	12	22	M 6	4	M 6 x 8	4 x 22	4 x 20	2,52	2,44	
14		10 36 0000 0140	12	25	M 6	4	M 6 x 8	4 x 24	4 x 25	3,17	3,09	
	15	10 36 0000 0150	12	25	M 6	4	M 6 x 8	4 x 24	4 x 25	2,98	2,88	
16		10 36 0000 0160	12	28	M 6	4	M 6 x 8	4 x 28	4 x 25	3,84	3,76	
18		10 36 0000 0180	14	32	M 6	5	M 6 x 8	5 x 32	5 x 30	6	5,84	
20		10 36 0000 0200	14	32	M 6	5	M 6 x 8	5 x 32	5 x 30	5,3	5,2	
22		10 36 0000 0220	14	36	M 6	5	M 6 x 10	5 x 36	5 x 35	6,9	6,79	
	24	10 36 0000 0240	16	40	M 8	6	M 8 x 12	6 x 40	6 x 40	10	9,8	
25		10 36 0000 0250	16	40	M 8	6	M 8 x 10	6 x 40	6 x 40	9,56	9,32	
	26	10 36 0000 0260	16	40	M 8	6	M 8 x 10	6 x 40	6 x 40	9,05	8,83	
28		10 36 0000 0280	16	45	M 8	6	M 8 x 12	6 x 45	6 x 45	12,2	11,9	
	30	10 36 0000 0300	16	45	M 8	6	M 8 x 10	6 x 45	6 x 45	11,1	10,8	
32		10 36 0000 0320	16	50	M 8	8	M 8 x 12	8 x 50	8 x 50	14,5	14	
	35	10 36 0000 0350	16	56	M 8	8	M 8 x 12	8 x 55	8 x 55	18,7	18,2	
36		10 36 0000 0360	16	56	M 8	8	M 8 x 12	8 x 55	8 x 55	18	17,6	
40		10 36 0000 0400	18	63	M 10	8	M 10 x 16	8 x 60	8 x 60	26,1	25,6	
45		10 36 0000 0450	18	70	M 10	8	M 10 x 16	8 x 70	8 x 70	31,7	31	
50		10 36 0000 0500	18	80	M 10	10	M 10 x 16	10 x 80	10 x 80	42,9	42,1	
	55	10 36 0000 0550	18	80	M 10	10	M 10 x 16	10 x 80	10 x 80	37,3	36,4	
56		10 36 0000 0560	18	80	M 10	10	M 10 x 16	10 x 80	10 x 80	36,1	35,2	
60		10 36 0000 0600	20	90	M 10	10	M 10 x 16	10 x 90	10 x 90	55,2	54,3	
63		10 36 0000 0630	20	90	M 10	10	M 10 x 16	10 x 90	10 x 90	50,8	49,8	
	65	10 36 0000 0650	20	100	M 10	10	M 10 x 20	10 x 100	10 x 100	70,8	69,8	
70		10 36 0000 0700	20	100	M 10	10	M 10 x 20	10 x 100	10 x 100	62,6	61,6	
	75	10 36 0000 0750	22	110	M 12	10	M 12 x 20	10 x 110	10 x 110	87,1	86	
80		10 36 0000 0800	22	110	M 12	10	M 12 x 20	10 x 110	10 x 110	76,8	75,5	
	85	10 36 0000 0850	22	125	M 12	12	M 12 x 25	12 x 120	12 x 120	113	111	
90		10 36 0000 0900	22	125	M 12	12	M 12 x 20	12 x 120	12 x 120	101	99	
100		10 36 0000 1000	25	140	M 12	12	M 12 x 25	—	12 x 140	147	145	
110		10 36 0000 1100	25	160	M 12	12	M 12 x 30	—	12 x 160	206	204	
	120	10 36 0000 1200	25	160	M 12	12	M 12 x 25	—	12 x 160	171	169	
125		10 36 0000 1250	28	180	M 16	16	M 16 x 35	—	16 x 180	285	282	
140		10 36 0000 1400	28	200	M 16	16	M 16 x 35	—	16 x 200	347	343	
	150	10 36 0000 1500	28	200	M 16	16	M 16 x 30	—	16 x 200	298	294	
160		10 36 0000 1600	32	220	M 20	—	M 20 x 35	—	—	446	—	
180		10 36 0000 1800	32	250	M 20	—	M 20 x 40	—	—	590	—	
200		10 36 0000 2000	32	280	M 20	—	M 20 x 45	—	—	756	—	

- 1) With Form C the setscrew is used as an assembly aid for fixing the set collar during drilling of the pin hole.
- 2) Other tolerance areas must be quoted when ordering, e.g. set collar to DIN 705 – A32 F9.
- 3) The nominal diameters of row 1 correspond to standard figures or to rounded standard figures and should be used for preference especially for new structures.
- 4) The nominal diameters of row 2 contain sizes that are currently still needed in practice, but should no longer be used in new structures.
- 5) Unlike grooved and taper pins, setscrews (up to M 10 with slot to DIN 553 and above M 12 with internal hexagon to DIN 914) are an integral part of the set collar.
- 6) Instead of grooved pins to DIN 1471, it is also possible to use dowel pins to DIN 1481 or spiral dowel pins to DIN 7343.
- 7) If taper pins to DIN 1 are used, the hole must be reamed during assembly with a 1:50 taper.

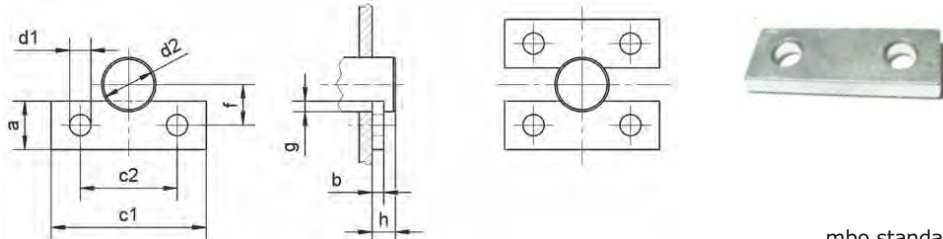
Material:
11SMnPb30+C or equivalent material
Other materials on request
Special versions on request

Thread:
metric to DIN 13, part 13
thread tolerance 6H to DIN 13 Part 15

Edges: DIN 6784 - D2

20_06
01/2007

Axle holders to DIN 15058



mbo standard 35

For axle diameter d2	Order number	a	b ¹⁾	c1	c2	d1 ²⁾	f	g	h	Fastening bolts Thread to DIN 13		Weight kg ≈	
										Sheet 1 Regular thread	Sheets 5 and 6 Fine-pitch thread		
Range	Preferred diameter												
above 16 up to 25	18	10 35 0000 0020	20	5	60	36	9	16	3	10	M 8	M 8x1	0.042
	20							4					
	22							4.5					
	25							4.5					
above 25 up to 40	28	10 35 0000 0025	25	6	80	50	11	22	4.5	12	M 10	M 10x1	0.085
	(30)							5.5					
	32							6					
	(35)							6.5					
	36							6.5					
	40							7					
above 40 up to 63	45	10 35 0000 0030	30	8	100	70	13	31	7.5	16	M 12	M 12x1.5	0.19
	50							8					
	(55)							9					
	56							9.5					
	(60)							10					
	63							10.5					
	70							12					
above 63 up to 100	(75)	10 35 0000 0040	40	10	140	100	17	45	10	20	M 16	M 16x1.5	0.4
	80							12					
	90							13					
	100							14					
	110							15					
	125							16.5					
above 100 up to 160	140	10 35 0000 0050	50	12	190	140	21	71	18	25	M 20	M 20x1.5	0.9
	160							20					
	180							22					
	200							25					
	220							28					
above 160 up to 250	250	10 35 0000 0060	60	16	250	200	25	98	22	32	M 24	M 24x1.5	1.75
	105							25					
	112							28					
	125							30					

¹⁾ the width of the groove in the axle depends on the operating conditions and the semi-finished product used for the axle holder

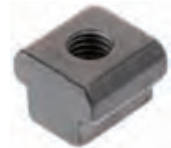
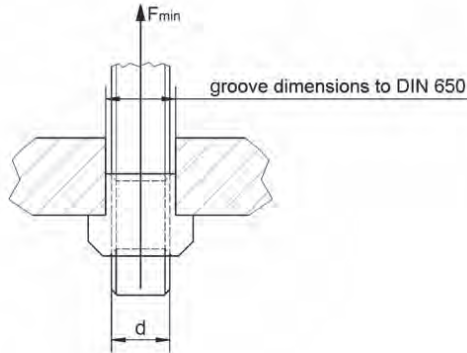
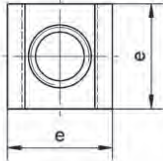
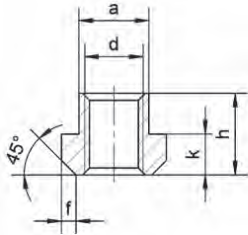
²⁾ state other hole diameters when ordering

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Material: St 37 - 1

Special versions on request

Nuts for T-slots to DIN 508



mbo standard 33

Order number	d	a	Tolerance e	e	Tolerance e	f	h	k	Tolerance e	Weight g/piece ≈	For T-slots to DIN 650	Test force F_{min} N · 10 ³
10 33 0508 0004	M 4	5	-0.3 -0.5	9	0 -0.5	1	6.5	3	0 -0.3	2.5	5	7
10 33 0508 0005	M 5	6		10			8	4	0	4	6	11.4
10 33 0508 0006	M 6	8		13			10	6	-0.5	10	8	16
10 33 0508 0008	M 8	10	-0.3 -0.6	15	0 -0.5	1.6	12	6	0 -0.5	18	10	29
10 33 0508 0010	M 10	12		18			14	7		24	12	46
10 33 0508 0012	M 12	14		22			16	8		35	14	67
10 33 0508 0016	M 16	18		28			20	10		75	18	126
10 33 0508 0020	M 20	22		35			28	14		165	22	196
10 33 0508 0024	M 24	28		44			36	18		345	28	282
10 33 0508 0030	M 30	36	54	44	22	770	36	448				
10 33 0508 0036	M 36	42	-0.4 -0.7	65	0 -1	6	52	26	0 -1	1030	42	653
10 33 0508 0042	M 42	48		75			60	30		1550	48	653
10 33 0508 0048	M 48	54		85			70	34		2300	54	653

Hardness:

- M 4 ≥ 170 HV
- M 5 - M 36 ≥ 188 HV
- > M 36 ≥ 180 HV

Material:

at discretion of manufacturer

20_08
01/2007

Special versions upon request