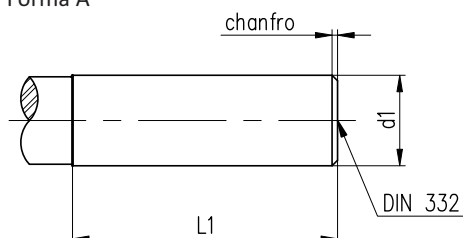


HASTES CILÍNDRICAS PARA FRESAS DE TOPO - DIN 1835

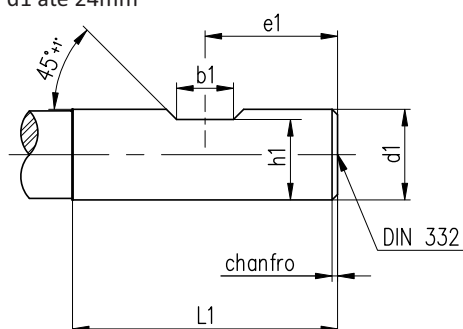
Forma A



Forma A

d1 h8 mm	L1 (+ 2,0) mm
3	28
4	28
5	28
6	36
8	36
10	40
12	45
16	48
20	50
25	56
32	60
40	70
50	80
63	90

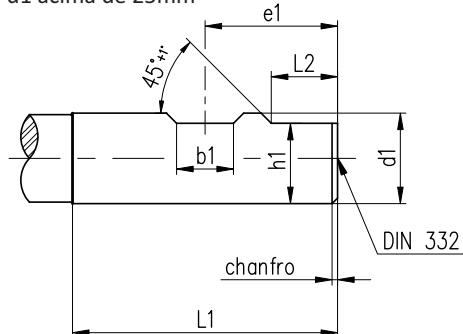
Forma B (Weldon)
d1 até 24mm



Formas B e C

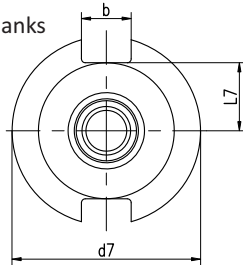
d1 h8 mm	b1 (+ 0,05) mm	e1 (- 1,0) mm	h1 h13 mm	L1 (+ 2,0) mm	L2 (+ 1,0) mm
6	4,2	18	4,8	36	-
8	5,5	18	6,6	36	-
10	7	20	8,4	40	-
12	8	22,5	10,4	45	-
16	10	24	14,2	48	-
20	11	25	18,2	50	-
25	12	32	23	56	17
32	14	36	30	60	19
40	14	40	38	70	19
50	18	45	47,8	80	23
63	18	50	60,8	90	23

Forma C (Weldon)
d1 acima de 25mm

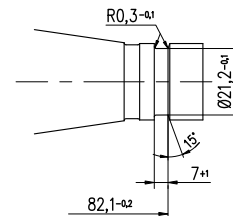
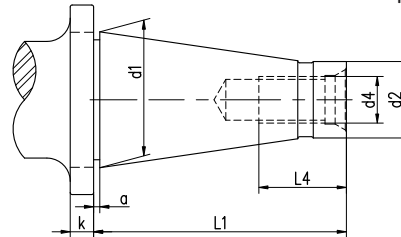


HASTES CÔNICAS - DIMENSÕES

Cone ISO
7/24 Taper shanks
DIN 2080

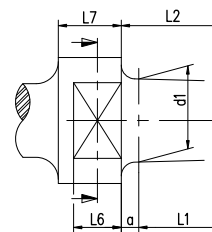
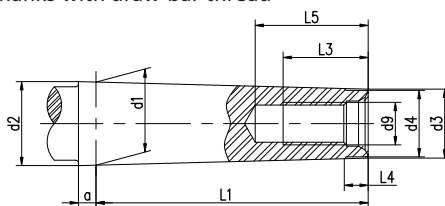


Cone com ranhura anular MAHO
Taper shanks with MAHO ring groove

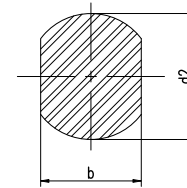


Cone	a ±0,2	b h12	d1	d2 a10	d4	d7 -0,4	k ±0,15	L1	L4	L7 máx.
30	1,6	16,1	31,75	17,4	M12	50	8	68,4	24	16,2
40	1,6	16,1	44,45	25,3	M16	63	10	93,4	32	22,5
45	3,2	19,3	57,15	32,4	M20	80	12	106,8	40	29
50	3,2	25,7	69,85	39,6	M24	97,5	12	126,8	47	35,3
60	3,2	25,7	107,95	60,2	M30	156	16	206,8	59	60

Cone Morse com rosca de fixação
Morse taper shanks with draw-bar thread
DIN 228 A

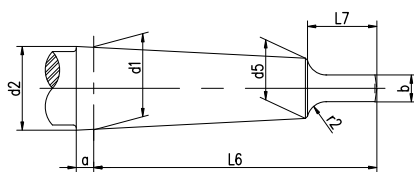


DIN 2207



Cone	a	d1	d2 ~	d3 ~	d4 máx.	d9	L1 máx.	L3 mín.	L4	L5 mín.	b d9	d2	L6	L7
0	3,0 ^{+1,2}	9,045	9,2	6,4	6	-	50	-	4	-	-	-	-	-
1	3,5 ^{+1,4}	12,065	12,2	9,4	9	M6	53,5	16	5	22	-	-	-	-
2	5,0 ^{+1,4}	17,780	18	14,6	14	M10	64	24	5	31,5	-	-	-	-
3	5,0 ^{+1,7}	23,825	24,1	19,8	19	M12	81	24	7	33,5	24	36	12	18
4	6,5 ^{+1,9}	31,267	31,6	25,9	25	M16	102,5	32	9	42,5	32	43	15	23
5	6,5 ^{+1,9}	44,399	44,7	37,6	35,7	M20	129,5	40	10	52,5	45	60	18	28
6	8,0 ^{+2,3}	63,348	63,8	53,9	51	M24	182	47	16	61,5	65	84	25	39

Cone Morse com lingueta de extração
Morse taper shanks with tang
DIN 228 B



Cone	a	b h13	d1 ~	d2	d5 ~	L6 -1,0	L7 máx.	r2
0	3,0 ^{+1,2}	3,9	9,045	9,2	6,1	56,5	10,5	4
1	3,5 ^{+1,4}	5,2	12,065	12,2	9	62	13,5	5
2	5,0 ^{+1,4}	6,3	17,780	18	14	75	16	6
3	5,0 ^{+1,7}	7,9	23,825	24,1	19,1	94	20	7
4	6,5 ^{+1,9}	11,9	31,267	31,6	25,2	117,5	24	8
5	6,5 ^{+1,9}	15,9	44,399	44,7	36,5	149,5	29	10
6	8,0 ^{+2,3}	19,0	63,348	63,8	52,4	210	40	13