

Cutting Bushings / Guide Bushings

Steel HSS / Steel, Punch Guide Bushings

SPECIFICATION

Types

- Type **A**: Without collar
- Type **B**: With collar
- Type **C**: Without collar

Steel HSS (Types A, B)

- Hardened and tempered (HRC 62 +2)
- Tolerances and cutting edges ground

Steel ST (Type C)

- Hardened (HRC 62 +2)
- Fit surfaces d_1 and d_2 ground

INFORMATION

Cutting bushings DIN 9845 (Types A, B) are used, for example, in combination with cutting punches DIN 9861 (see page) in punching tools. When selecting the cutting bushing, it is necessary to consider the required cutting gap, which depends on the material to be punched and the material thickness. The diameter d_4 is larger than the cutting bore d_1 to enable reliable ejection of the punched part. If necessary, cutting bushings can be machined to give them an application-specific geometry.

Guide bushings DIN 9845 (Type C) are used as punch guide bushings. However, they are also suitable for guiding and positioning of guide pins, for example, as alternatives to drill bushings DIN 172 (see page 1006) / DIN 179 (see page 1008) when the tolerance range should be closer to the nominal dimension. When combined with a location bore with tolerance H7, the outer diameter of the guide bushing with tolerance n6 results in a transition fit.

ACCESSORY

- DIN 9861 Cutting Punches (see page)

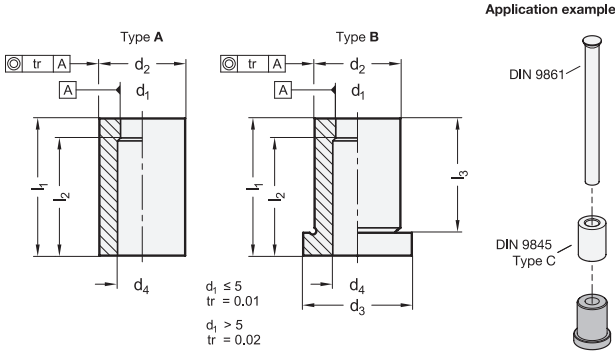
ON REQUEST

- Other bores d_1 (Types A, B, C)
- Other lengths l_1 (Types A, B)

TECHNICAL INFORMATION

- ISO-Fundamental Tolerances (see page A21)





DIN 9845-Cutting Bushings

Description	d_1 H8	l_1	d_2 n6	d_2 k6	d_3	d_4	l_2	l_3	
DIN 9845-2-20-A-HSS	2	20	6	-	-	$d_1 + 0.3$	17	-	4
DIN 9845-2-20-B-HSS	2	20	-	6	8	$d_1 + 0.3$	17	16	5
DIN 9845-2.1-20-A-HSS	2.1	20	7	-	-	$d_1 + 0.5$	17	-	5
DIN 9845-2.1-20-B-HSS	2.1	20	-	7	9	$d_1 + 0.5$	17	16	6
DIN 9845-3-20-A-HSS	3	20	7	-	-	$d_1 + 0.5$	17	-	5
DIN 9845-3-20-B-HSS	3	20	-	7	9	$d_1 + 0.5$	17	16	6
DIN 9845-3.1-20-A-HSS	3.1	20	8	-	-	$d_1 + 0.5$	17	-	7
DIN 9845-3.1-20-B-HSS	3.1	20	-	8	10	$d_1 + 0.5$	17	16	7
DIN 9845-4-20-A-HSS	4	20	8	-	-	$d_1 + 0.5$	17	-	6
DIN 9845-4-20-B-HSS	4	20	-	8	10	$d_1 + 0.5$	17	16	7
DIN 9845-4.1-20-A-HSS	4.1	20	10	-	-	$d_1 + 0.5$	16	-	10
DIN 9845-4.1-20-B-HSS	4.1	20	-	10	12	$d_1 + 0.5$	16	16	11
DIN 9845-5-20-A-HSS	5	20	10	-	-	$d_1 + 0.7$	16	-	9
DIN 9845-5-20-B-HSS	5	20	-	10	12	$d_1 + 0.7$	16	16	10
DIN 9845-5.1-20-A-HSS	5.1	20	12	-	-	$d_1 + 0.7$	16	-	14
DIN 9845-5.1-20-B-HSS	5.1	20	-	12	14	$d_1 + 0.7$	16	16	16
DIN 9845-6-20-A-HSS	6	20	12	-	-	$d_1 + 0.7$	16	-	13
DIN 9845-6-20-B-HSS	6	20	-	12	14	$d_1 + 0.7$	16	16	14
DIN 9845-6.1-20-A-HSS	6.1	20	15	-	-	$d_1 + 0.7$	16	-	23
DIN 9845-6.1-20-B-HSS	6.1	20	-	15	17	$d_1 + 0.7$	16	16	24
DIN 9845-8-20-A-HSS	8	20	15	-	-	$d_1 + 0.7$	16	-	19
DIN 9845-8-20-B-HSS	8	20	-	15	17	$d_1 + 0.7$	16	16	21
DIN 9845-8.1-20-A-HSS	8.1	20	18	-	-	$d_1 + 1$	16	-	31
DIN 9845-8.1-20-B-HSS	8.1	20	-	18	20	$d_1 + 1$	16	16	33
DIN 9845-10-20-A-HSS	10	20	18	-	-	$d_1 + 1$	16	-	27
DIN 9845-10-20-B-HSS	10	20	-	18	20	$d_1 + 1$	16	16	29
DIN 9845-10.1-20-A-HSS	10.1	20	22	-	-	$d_1 + 1$	15	-	46
DIN 9845-10.1-20-B-HSS	10.1	20	-	22	24	$d_1 + 1$	15	16	48
DIN 9845-12-20-A-HSS	12	20	22	-	-	$d_1 + 1$	15	-	41
DIN 9845-12-20-B-HSS	12	20	-	22	24	$d_1 + 1$	15	16	43
DIN 9845-12.1-20-A-HSS	12.1	20	26	-	-	$d_1 + 1$	15	-	65
DIN 9845-12.1-20-B-HSS	12.1	20	-	26	28	$d_1 + 1$	15	16	66

DIN 9845-Guide Bushings

Description	d_1 H7	Length l	d_2 n6	
DIN 9845-2-12-C-ST	2	12	6	2
DIN 9845-3-12-C-ST	3	12	7	3
DIN 9845-4-12-C-ST	4	12	8	4
DIN 9845-5-16-C-ST	5	16	10	7
DIN 9845-6-16-C-ST	6	16	12	10
DIN 9845-8-20-C-ST	8	20	15	20
DIN 9845-10-20-C-ST	10	20	18	28
DIN 9845-12-28-C-ST	12	28	22	58
DIN 9845-16-36-C-ST	16	36	30	141