HSK-A/E/F/C HSK-T

# **Drill Jig Bushing**

I.D.

Bushings are made in 3 different types for precise drilling, drilling and reaming. Available in increments of 0.1 mm according to size of drill or reamer.

#### UNDERCUT

Two-way undercut allows bushings to fit flush on top of jig.

O.D.

Highly precise finish based on I.D.



Blended and polished for smooth entry of cutting tool.

#### HARDNESS

H.R.C60°  $\sim$  64° for long wear free.

#### MATERIAL

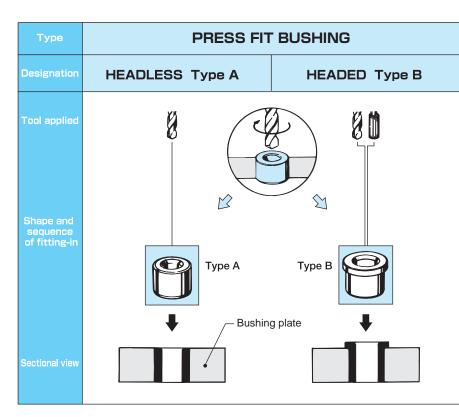
JIS SK-5 or selected steel.

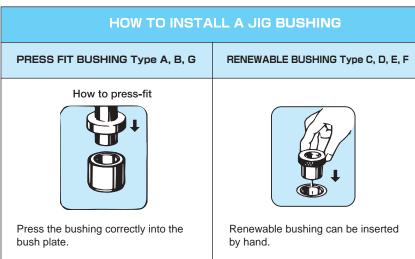
### CHAMFERS

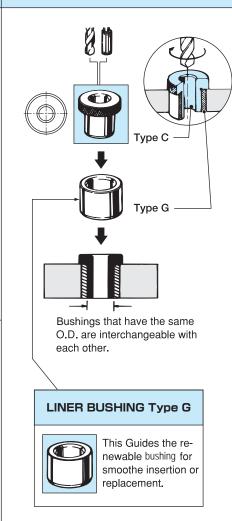
Chamfers on Bushings permit easy insertion.

**RENEWABLE BUSHING** 

**ROUND Type C** 





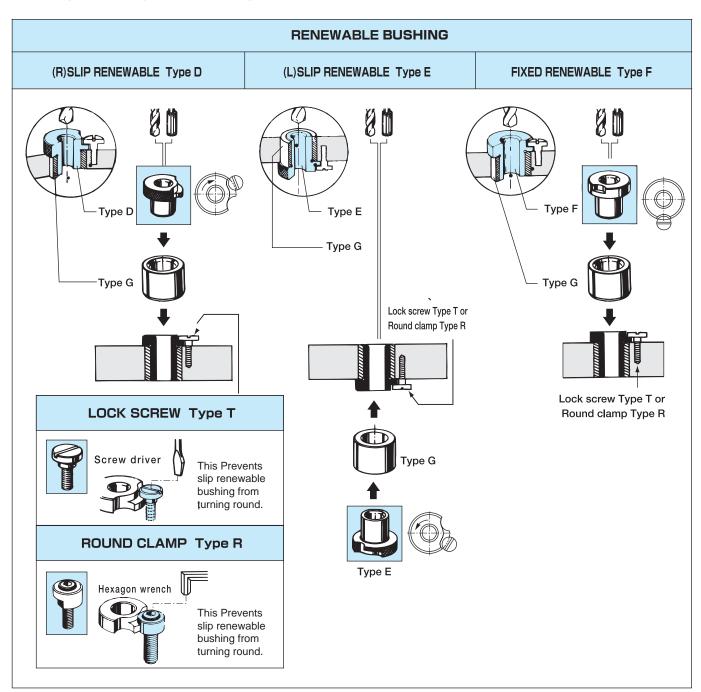




BT CAT AHO HSK-A/E/F/C HSK-T UTS

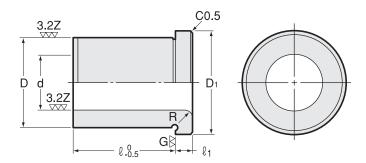
		Press	fit bushing		Renewa	ble bushing	Headless				
Name		Headless	Headed	Round	Right slip	Left slip	Fixed	liner bushing	Lock screw	Round clamp	
Shape	)	T							Litter		
Higher acci	uracy	SA	SB	sc	SD	SE	SF				
Standard ac	curacy	A	В	С	D	E	F	G	т	R	
Reamin	ng	_	BR	CR	DR	ER	FR				

S…for higher accuracy R…for reaming



HSK-T





\* 1.Bushing with I.D. size smaller than 3.0mm uses 30 degreed chamfered radius (R).

	Tolerance	of I.D.					
d	1.6 ~ 3.0	3.1 ∼ 6.0	6.1 ~ 10.0	10.1 ~ 18.0	18.1 ~ 30.0	30.1 ~ 50.0	50.1 ~ 55.0
SB (G6)	+0.008	+0.012	+0.014	+0.017	+0.020	+0.025	+0.029
	+0.002	+0.004	+0.005	+0.006	+0.007	+0.009	+0.010
В	+0.025	+0.030	+0.036	+0.043	+0.052	+0.062	+0.074
	+0.002	+0.004	+0.005	+0.006	+0.007	+0.009	+0.010
BR	+0.014	+0.020	+0.024	+0.029	+0.034	+0.041	+0.049
	+0.008	+0.012	+0.015	+0.018	+0.021	+0.025	+0.030

## Concentric runout (T.I.R.) of O.D.to I.D.

d	1.6 ~ 18.0	18.1 ∼ 50.0	50.1 ∼ 55.0		
SB/BR	0.005 or less	0.008 or less	0.010 or less		
В	0.012 or less	0.020 or less	0.025 or less		

- 1. Headed press fit bushing cannot be used together with renewable bushing, which can be used only with headless liner bushing (Type G).
- 2.Bore a hole in bushing plate at H7 for bushing with O.D. (D) p6.Tolerance of hole bored by reamer with O.D. m5 is H7.

I.D.(d) of hole in bushing plate	0.8 ~ 3.0	3.1 ~ 6.0	6.1 ~ 10.0	10.1 ~ 18.0	18.1 ~ 30.0	30.1 ~ 50.0	50.1 ~ 55.0
Tolerance H7	+0.010	+0.012	+0.015	+0.018	+0.021	+0.025	+0.030
	0	0	0	0	0	0	0



SB ······ For higher accuracy B····· For standard accuracy

BR····· For reaming

d	D (p6)		D1	<i>l</i> 1	R	Grade					ı	ę							
u	L'	) (po)	DI	21	L,	Graue	8	10	12	16	20	25	30	35	45	55			
1.6 ~ 2.0	5	+0.020	9	2.5	<b>※</b> 1	SB	0	0	0										
		+0.012	Ů	0		В	0	0	0										
2.1 ~ 3.0	7	+0.024	11	2.5	<b>※</b> 1	SB	0	0	0										
		+0.015				В	0	0	0										
3.1 ~ 4.0	8	+0.024 +0.015	12	3	1	SB		0	0	0									
		+0.013				В		0	0	0									
4.1 ~ 6.0	10	+0.024 +0.015	14	3	1	SB		0	0	0									
		10.010				В		0	0	0									
6.1 ~ 8.0	12	+0.029 +0.018	16	4	2	SB B			0	0	0								
						SB			0	0	0								
8.1 ~ 10.0	15	+0.029 +0.018	19	4	2	В													
		0.000							SB				0	0	0				
10.1 ~ 12.0	18 +0.029 +0.018	22	4	2	В					0	0								
	~ <b>15.0</b> 22 +0.035 +0.022	10.035	26	5	2	SB				0	0	0							
12.1 ~ 15.0		+0.033				В				0	0	0							
		+0.035		_	_	SB					0	0	0						
15.1 ~ 18.0	26	+0.022	30	5	5 2	В					0	0	0						
40.4 - 00.0	20	+0.035	35	6	3	SB					0	0	0						
18.1 ~ 22.0	30	+0.035 +0.022				В					0	0	0						
22.1 ~ 26.0	35	+0.042	40	6	3	SB						0	0	0					
22.1 20.0	55	+0.026		Ü	J	В						0	0	0					
26.1 ~ 30.0	42	+0.042	47	6	3	SB						0	0	0					
		+0.026				В						0	0	0					
30.1 ~ 35.0	48	+0.042 +0.026	55	8	4	SB							0	0	0				
		+0.020				В							0	0	0				
35.1 ~ 42.0	55	+0.051 +0.032	62	8	4	SB							0	0	0				
		. 0.002				В							0	0	0				
42.1 ~ 48.0	62	+0.051 +0.032	69	8	4	SB								0	0	0			
						В								0	0	0			
48.1 ~ 55.0	70	+0.051 +0.032	77	8	4	SB								0	0	0			
		+0.032				В								0	0	0			

List prices of type BR are identical to those of type SB.

**Ordering Example** 

SB - 6.0 × 10

Code

0000 022 060 12 Code d ℓ B:021 SB:022 BR:023