
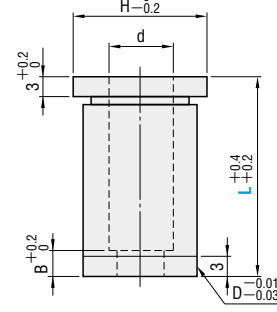

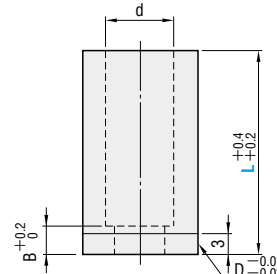





# PUNCH GUIDE BUSHINGS

—Headed—		RoHS	Shank diameter D Tolerance	M H	D dimension	Catalog No.							
	D <sub>m5</sub>	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC	D3~5	A	MHG								
								D <sub>m5</sub>	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC	D3~5	A	MHG	
D <sub>m5</sub>	Equivalent to SKD11 60~63HRC	D6~16	D	HGD									
				R	HGR								
				E	HGE								
				G	HGG								
				A	A—MHG								
				D	A—HGD								
				R	A—HGR								
				E	A—HGE								
				G	A—HGG								
—Straight—		RoHS	Shank diameter D Tolerance	M H	D dimension	Catalog No.							
	D <sub>n5</sub>	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC	D3~5	A	MSG								
								D <sub>n5</sub>	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC	D3~5	A	MSG	
D <sub>n5</sub>	Equivalent to SKD11 60~63HRC	D6~16	D	SGD									
				R	SGR								
				E	SGE								
				G	SGG								
				A	A—MSG								
				D	A—SGD								
				R	A—SGR								
				E	A—SGE								
				G	A—SGG								


D tolerance		Catalog No.		L		0.01mm increments				B	d	H
D	m5	n5	Type	D	L	A	D	R	E	G	R	
3	+0.005 +0.002	+0.008 +0.004	(Equivalent to SKH51) Headed type (D <sub>m5</sub> ) Straight type (D <sub>n5</sub> ) A MHG MSG	(3)	10 13 16 20	0.30 ~ 0.70	—	—	—	—	—	2.0 4
4	+0.009 +0.004	+0.013 +0.008		(4)	10 13 16 20 22 25	0.30 ~ 2.00	—	—	—	—	—	2.4 5
5	+0.009 +0.004	+0.013 +0.008		(5)	10 13 16 20 22 25	0.50 ~ 2.50	—	—	—	—	—	2.9 6
6	+0.012 +0.006	+0.016 +0.010	(Equivalent to SKD11) Headed type (D <sub>m5</sub> ) (D <sub>m5</sub> +0.005) Straight type (D <sub>n5</sub> ) (D <sub>n5</sub> +0.005) A MHG A—MHG MSG A—MSG D HGD A—HGD SGD A—SGD R HGR A—HGR SGR A—SGR E HGE A—HGE SGE A—SGE G HGG A—HGG SGG A—SGG	(6)	10 13 16 20 22 25	1.00 ~ 3.00	3.00	1.00	—	—	—	3 3.4 9
8	+0.012 +0.006	+0.016 +0.010		8	10 13 16 20 22 25	1.00 ~ 4.00	4.00	1.00	—	—	—	4.4 11
10	+0.015 +0.007	+0.020 +0.012		10	10 13 16 20 22 25	2.00 ~ 6.00	6.00	1.20	—	—	—	6.4 13
13	+0.015 +0.007	+0.020 +0.012		13	10 13 16 20 22 25	3.00 ~ 8.00	8.00	1.50	—	—	—	8.4 16
16				16	10 13 16 20 22 25	3.00~10.00	10.00	2.00	—	—	—	10.6 19

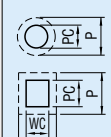
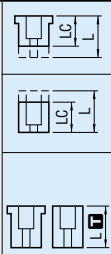
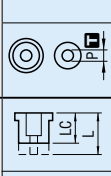

⊕ The D=(6) straight type is a specification available for shape (A) only. ⊕ D3 bushings are thin under the head. Be careful not to damage the bushings when mounting them.  
⊕ D=(3), (4), and (5) are specifications available for m5 and n5 only.

Order  Catalog No. — L — P — W — R (R only)  Days to Ship **Quotation**

Price  **Quotation**

MHG 8 — 20 — P3.01  
SGR 13 — 16 — P7.22 — W3.22 — R0.15

Alterations  Catalog No. — L(LC) — P(PC) — W(WC) — R — (HC-TC-KC, etc.)  
MHG 8 — LC15 — P3.01 — R — KC

Alteration	Code	A	D	R	E	G	1Code	
Alterations to guide	PC WC		Guide diameter change min.: P > PC ≥ P <sub>min</sub> ≥ 0.50 0.01mm increments ⊕ If PC is 1.50~1.99, then for D13, 16→ B=4. max.: P < PC ≤ P+0.2	Guide diameter change min.: P, PC > P <sub>min</sub> ≥ 1.00 0.01mm increments max.: P < PC ≤ P+Kmax+0.2			1Code	
			Tip diameter tolerance change P+0.01 ⇔ +0.005 ⊗ Cannot be used for P<1.00.	Tip diameter tolerance change P·W±0.01 ⇔ +0.01 0				
	Alterations to full length	LC LKC LKZ		Full length change (reduction in tip length) 10 ≤ L - (B-1) ≤ LC < L 0.1 mm increments (If combined with LKC-LKZ, 0.01 mm increments can be selected.) ⊕ B dimension and press-in lead are shortened by (L-LC). B ≥ 1	Full length change 10 ≤ L - (B-1) ≤ LC < L 0.1 mm increments (If combined with LKC-LKZ, 0.01 mm increments can be selected.)			Quotation
Alterations to head	WKC HC TC		Double key flats in parallel Can be combined with KC. ⊗ Cannot be used for L(LC) < 16. ⊗ Cannot be used for D3-6 for straight types. ⊗ Cannot be combined with KC for shape (A).	Head diameter change D ≤ HC < H 0.1 mm increments	Head thickness change 2 ≤ TC < 3 0.1mm increments If combined with TKC-TKM, 0.01mm increments can be selected. ⊕ Full length is shortened by (3-TC). If combined with LC, full length is equal to LC.			
			Alterations to shank	SKC		Single key flat on shank ⊕ Can be used for headed types only. ⊕ Can be used for D ≥ 8 and L(LC) ≥ 20. ⊗ Cannot be combined with KC·WKC.		