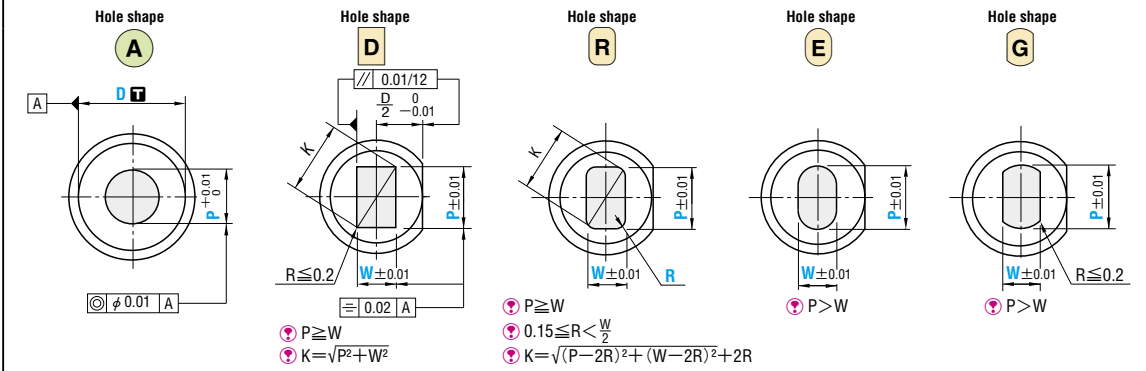


ANGULAR BUTTON DIES

— HEADED —

Headed type	Shank diameter D tolerance	Material	D dimension	Catalog No.	The hole shape can be selected from A D R E G below.
<p>RoHS</p>	D _{m5}	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC Equivalent to SKD11 60~63HRC	D3~5	AHD	
			D6~25	AHD	
			D6~25	AHD	
			D3~25	PAHD	
			D6~25	PAHD	
			D3~5	A-AHD	
D _{+0.005/0}	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC Equivalent to SKD11 60~63HRC	D3~5	A-AHD		
		D6~16	A-AHD		
		D6~16	A-AHD		
		D3~16	A-PAHD		
		D6~16	A-PAHD		
		D6~16	A-PAHD		

For shank diameter tolerance D tolerance, select either m5 or +0.005/0.



D tolerance	Catalog No.	Type	D	L	0.01mm increments				H	T
					A	D R E G	R	R		
D m5					min. P max.	P·Kmax.	P·Wmin.	R <td></td> <td></td>		
3 +0.006/-0.002	(D _{m5})	(D _{+0.005/0})	(3)	8 13	0.30~0.70	—	—	—	4	
4 +0.009/-0.004	(Equivalent to SKH51) (Powdered high-speed steel)	(Equivalent to SKH51) (Powdered high-speed steel)	(4)	8 13 16 20 22 25 30	0.50~1.50	—	—	—	5 3	
5 +0.009/-0.004	A AHD PAHD A-AHD A-PAHD		(5)	16 20 22 25 30	0.50~2.50	—	—	—	6	
6 +0.005/0	(D _{m5})	(D _{+0.005/0})	6	16 20 22 25 30 35	1.00~3.00	3.00	1.00	—	9	
8 +0.012/-0.006	(Equivalent to SKD11) (Powdered high-speed steel)	(Equivalent to SKD11) (Powdered high-speed steel)	8	16 20 22 25 30 35	1.00~4.00	4.00	1.00	—	11	
10 +0.015/-0.007	A AHD PAHD A-AHD A-PAHD		10	16 20 22 25 30 35 (40)	2.00~6.00	6.00	1.20	—	13	
13 +0.017/-0.008	D AHDD PAHDD A-AHDD A-PAHDD		13	16 20 22 25 30 35 (40)	3.00~8.00	8.00	1.50	—	16 5	
16 +0.017/-0.008	R AHDR PAHDR A-AHDR A-PAHDR		16	16 20 22 25 30 35 (40)	5.00~10.00	10.00	2.00	—	19	
20 +0.017/-0.008	E AHDE PAHDE A-AHDE A-PAHDE		(20)	16 20 22 25 30 35	7.00~12.00	12.00	3.00	—	23	
25 +0.008	G AHDG PAHGD A-AHDG A-PAHDG		(25)	16 20 22 25 30 35	10.00~16.00	16.00	3.00	—	28	

⊕ D = (3), (4), and (5) are specifications available for shape A (round) only. They are not available for shapes D R E G.
 ⊕ D = (20) and (25) are specifications available for shank diameter tolerance of D_{m5} only.
 ⊕ L = (40) is a specification available for AHD, AHDD, AHDR, AHDE, and AHGD only.

Order **Catalog No.** — L — P — W — R (R only)
 AHDR 13 — 25 — P6.20 — W2.00 — R0.50

Days to Ship **Quotation**

Alterations **Catalog No.** — L (LC·LCT·LMT) — P (PC) — W (WC) — R — (BC·HC·TC·CKC·MKC, etc.)
 AHD 6 — 16 — P2.47 — HC8.0—ANF1.8—KFC135

Alteration	Code	A	D R E G	1Code	
Alterations to shaped hole	PC	Shaped hole diameter change min.: P > PC ≥ P _{min.} ≥ 0.50 0.01 mm increments	Shaped hole diameter change min.: P < PC ≤ P - W _{min.} ≥ 1.00 0.01 mm increments		
	WC	max.: P < WC ≤ P · K _{max.} + 0.2 0.01 mm increments			
	BC	Shaped hole depth change 1 ≤ BC ≤ 4 0.1 mm increments ⊗ Cannot be used for P < 1.0.			
	PKC	Shaped hole diameter tolerance change P +0.01 ⇒ +0.005 ⊗ Cannot be used for P < 1.00.	Shaped hole diameter tolerance change P · W ± 0.01 ⇒ ± 0.01 ⊗ Cannot be used for P < 1.00.		
	LC	Full length change 10 ≤ LC < L 0.1 mm increments (If combined with LKC·LKZ·CKC·MKC, then 0.01 mm increments can be selected.) ⊕ Press-in lead is shortened by (L - LC).			
Alterations to full length	LKC	Full length tolerance change L +0.4 ⇒ +0.05 L -0.2 ⇒ 0 ⊗ Cannot be used for L (LC) < 10.			
	LKZ	Full length tolerance change L +0.4 ⇒ +0.01 L -0.2 ⇒ 0 ⊗ Cannot be used for L (LC) < 16.			
	CKC	Changes to head thickness tolerance and full length tolerance are processed using a single code. Machining limits are the same as for TKC and LKC. ⊗ Cannot be used for L (LC) < 16.			Quotation
		TKC	Head thickness tolerance change T +0.3 ⇒ +0.02 T 0 ⇒ 0	LKC	
	MKC	Changes to head thickness tolerance and full length tolerance are processed using a single code. Machining limits are the same as for TKM and LKC. ⊗ Cannot be used for L (LC) < 16.			
LCT	TKM	Head thickness tolerance change T +0.3 ⇒ 0 T 0 ⇒ -0.02	LKC	Full length tolerance change L +0.4 ⇒ +0.05 L -0.2 ⇒ 0	
	LCT	TKC	LC	LKC	
LMT	TKM	LC	LKC		
	LMT	TKM	LC	LKC	

P Price **Quotation**

Alteration	Code	A	D R E G	1Code																				
Alterations to head	HC	Head diameter change D ≤ HC < H 0.1 mm increments																						
	TC	Head thickness change 2 ≤ TC < T 0.1 mm increments (If combined with TKC·TKM·CKC·MKC·LCT·LMT, 0.01 mm increments can be selected.) ⊕ Full length L is shortened by (T - TC). If combined with LC·LCT·LMT, full length remains as specified.																						
	KC	Addition of single key flat to head ⊗ Cannot be used for L (LC) < 16.	Key flat position, change 1° increments																					
	WKC	Addition of double key flats in parallel ⊗ Can be combined with KC for shapes D R E G. ⊗ Cannot be used for L (LC) < 16.																						
	KFC	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC·WKC. ⊗ Cannot be used for L (LC) < 16.	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC·WKC. ⊗ Cannot be used for L (LC) < 16.																					
		TKC	Head thickness tolerance change T +0.3 ⇒ +0.02 T 0 ⇒ 0 ⊗ Cannot be used for L (LC) < 16.																					
TKM	Head thickness tolerance change T +0.3 ⇒ -0.02 T 0 ⇒ 0 ⊗ Cannot be used for L (LC) < 16.																							
	SKC	Single key flat on shank ⊕ Can be used with D ≥ 8 and L (LC) ≥ 20 ⊗ Cannot be combined with KC·WKC·KFC·ANF.																						
Others	ANF	Angular angle change 0.6 ≤ ANF ≤ 1.2 0.2° increments ⊕ d ≤ d _{max.} ⊕ d = P + 2(L - B) tan(ANF°) ⊕ P - B tan(ANF°) ≥ 0.6 ⊕ W - B tan(ANF°) ≥ 0.6 ⊗ Cannot be used for P · W < 1.0. ⊗ Cannot be used for D = 3.	<table border="1"> <thead> <tr> <th>D</th> <th>d max.</th> </tr> </thead> <tbody> <tr><td>4</td><td>2.4</td></tr> <tr><td>5</td><td>2.9</td></tr> <tr><td>6</td><td>3.4</td></tr> <tr><td>8</td><td>4.4</td></tr> <tr><td>10</td><td>6.4</td></tr> <tr><td>13</td><td>8.4</td></tr> <tr><td>16</td><td>10.6</td></tr> <tr><td>20</td><td>12.6</td></tr> <tr><td>25</td><td>16.6</td></tr> </tbody> </table>	D	d max.	4	2.4	5	2.9	6	3.4	8	4.4	10	6.4	13	8.4	16	10.6	20	12.6	25	16.6	
		D	d max.																					
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BUTTON DIES