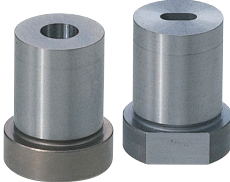
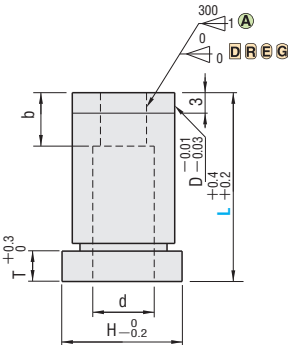
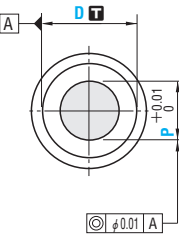
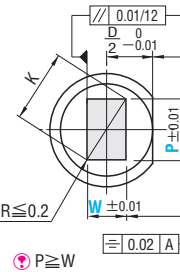
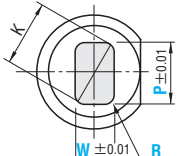
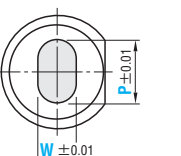


BUTTON DIES

—HEADED TYPE (ECONOMY)—

Headed	Shank diameter D T tolerance	M H	D dimension	Catalog No.	The hole shape can be selected from A D R E G below.
	D_{m5}	Equivalent to SKD11 60~63HRC	D6~56	EMHD	Economy type 
			D6~25	EHD ☐	
		Powdered high-speed steel 64~67 HRC	D6~25	EPMHD	
			D6~25	EPHD ☐	
	D^{+0.005}₀	Equivalent to SKD11 60~63HRC	D6~16	A—EMHD	
			D6~16	A—EHD ☐	
		Powdered high-speed steel 64~67 HRC	D6~16	A—EPMHD	
			D6~16	A—EPHD ☐	
For shank diameter tolerance D T , select either m5 or ^{+0.005} ₀ .					
Hole shape A	Hole shape D	Hole shape R	Hole shape E	Hole shape G	
					
$\varnothing \pm 0.01$ A $P \geq W$ $K = \sqrt{P^2 + W^2}$	$\frac{0.01}{2}$ D $\frac{0.01}{2}$ W $P \geq W$ $K = \sqrt{P^2 + W^2}$	$P \geq W$ $0.15 \leq R < \frac{W}{2}$ $K = \sqrt{(P-2R)^2 + (W-2R)^2} + 2R$	$P > W$	$P > W$	

D tolerance		Catalog No.	Type	D	0.01mm increments				b	d	H	T
D	m5				A	D R E G	R	R				
6	^{+0.009} _{+0.004}	(Equivalent to SKD11) (D _{m5}) (D ^{+0.005} ₀)	A EMHD A—EMHD D EHDD A—EHDD R EHDR A—EHDR E EHDE A—EHDE G EHDG A—EHDG	6	16 20 22 25 28 30 32 35	1.00~ 3.00	3.00	1.00	3	3.4	9	5
8	^{+0.012} _{+0.006}			8	16 20 22 25 28 30 32 35 40	1.00~ 4.00	4.00	1.00	4	4.4	11	
10	^{+0.015} _{+0.007}			10	16 20 22 25 28 30 32 35 40 (45)	2.00~ 6.00	6.00	1.20	6	6.4	13	
13	^{+0.017} _{+0.008}			13	16 20 22 25 28 30 32 35 40 (45)	3.00~ 8.00	8.00	1.50	8	8.4	16	
16	^{+0.020} _{+0.009}			16	16 20 22 25 28 30 32 35 40 (45)	5.00~ 10.00	10.00	2.00	10.6	19		
20	^{+0.024} _{+0.011}			20	16 20 22 25 28 30 32 35 40 (45)	7.00~ 12.00	12.00	3.00	12.6	23		
22	^{+0.025} _{+0.012}			22	16 20 22 25 28 30 32 35 40 (45)	8.00~ 14.00	14.00	3.00	14.6	25		
25	^{+0.026} _{+0.013}			25	16 20 22 25 28 30 32 35 40 (45)	10.00~ 16.00	16.00	3.00	16.6	28		
32	^{+0.032} _{+0.016}			32	16 20 22 25 28 30 32 35	15.00~ 20.00	20.00	4.00	20.6	35		
38	^{+0.038} _{+0.018}			38	16 20 22 25 30 35	19.00~ 26.00	26.00	5.00	26.6	41		
45	^{+0.045} _{+0.021}	(Powdered high-speed steel) (D _{m5}) (D ^{+0.005} ₀)	A EPMHD A—EPMHD D EPHDD A—EPHDD R EPHDR A—EPHDR E EPHDE A—EPHDE G EPHDG A—EPHDG	45	20 22 25 30 35	25.00~ 35.00	35.00	6.00	36.0	48		5
50	^{+0.050} _{+0.024}			50	20 22 25 30 35	33.00~ 40.00	40.00	7.00	41.0	53		
56	^{+0.056} _{+0.026}			56	20 22 25 30 35	38.00~ 45.00	45.00	8.00	46.0	59		
6	^{+0.009} _{+0.004}			6	16 20 22 25 30 35	1.00~ 3.00	3.00	1.00	3	3.4	9	
8	^{+0.012} _{+0.006}			8	16 20 22 25 30 35	1.00~ 4.00	4.00	1.00	4	4.4	11	
10	^{+0.015} _{+0.007}			10	16 20 22 25 30 35	2.00~ 6.00	6.00	1.20	6	6.4	13	
13	^{+0.017} _{+0.008}			13	16 20 22 25 30 35	3.00~ 8.00	8.00	1.50	8	8.4	16	
16	^{+0.020} _{+0.009}			16	16 20 22 25 30 35	5.00~ 10.00	10.00	2.00	10.6	19		
20	^{+0.024} _{+0.011}			20	16 20 22 25 30 35	7.00~ 12.00	12.00	3.00	12.6	23		
25	^{+0.026} _{+0.013}			25	16 20 22 25 30 35	10.00~ 16.00	16.00	3.00	16.6	28		

D = (20), (22), (25), (32), (38), (45), (50), (56) are specifications available for shank diameter tolerance of D_{m5} only.
 L = (45) is a specification available for shank dia. tolerance of D_{m5} only.

The volume discount rate is also applicable to alteration costs. P.39

Order	Catalog No.	L	P	W	R (R only)
Dispatch	D _{m5} D6—32	6	Days		
	D _{m5} D38—56	9	Days		
Alterations	Catalog No.	L (LC)	P (PC)	W (WC)	R — (HC·TC·CKC·MKC, etc.)
	EMHD 13	30	P7.00		TC4.0 — KFC90

Alteration	Code	A	D R E G	Rs./Code
Alterations to shaped hole	PC	Shaped hole diameter change min.: P > PC ≥ P _{min} / 2 ≥ 0.50 0.01 mm increments When PC is 1.00~1.99, then b=4. max.: P < PC ≤ P·Kmax. + 0.2 0.01 mm increments	Shaped hole diameter change min.: P > PC ≥ P·Wmin. / 2 ≥ 1.00 0.01 mm increments	126
	WC			
Alterations to full length	LC	Full length change (reduction in shaped hole depth) 10 ≤ L - (b - 1) ≤ LC < L 0.1 mm increments (If combined with LKC·LKZ·CKC·MKC, 0.01 mm increments can be selected.) Dimension b and lead are shortened by (L - LC).		126
	LKC	Full length tolerance change L + 0.4 → +0.05 0		252
	LKZ	Full length tolerance change L + 0.4 → +0.01 0 Cannot be used for L (LC) < 16. Cannot be used for D > 25.		378
	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.	LKC Full length tolerance change L + 0.4 → +0.05 0	315
	TKC	Head thickness tolerance change T + 0.3 → +0.02 0		
	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.	LKC Full length tolerance change L + 0.4 → +0.05 0	315
	TKM	Head thickness tolerance change T + 0.3 → -0.02 0		
Alterations to head	KC	Addition of single key flat to head	270° Key flat position 180° 0° change 1° increments	126
	WKC	Addition of double key flats in parallel	Double key flats in parallel Can be combined with KC.	126 (252 for A only)
	KFC	Double key flats at 0° and a selected angle 1° increments	270° 180° 0° 90°	126 (252 for A only)
	HC	Head diameter change D ≤ HC < H 0.1 mm increments		126
Others	TC	Head thickness change 2 ≤ TC < 5 0.1 mm increments (If combined with TKC·TKM·CKC·MKC, 0.01 mm increments can be selected.) Full length L is shortened by (5 - TC). If combined with LC, full length is equal to LC.		126
	TKC	Head thickness tolerance change T + 0.3 → +0.02 0 Cannot be used for L (LC) < 16.		126
	TKM	Head thickness tolerance change T + 0.3 → -0.02 0 Cannot be used for L (LC) < 16.		126
	RC	Head thickness is machined to a tolerance of -0.04~0 relative to the retainer surface. Cannot be used for L (LC) < 30.		126
	SKC	Single key flat on shank Can be used with D ≥ 8 and L (LC) ≥ 20. Cannot be combined with KC·WKC·KFC.		378

Rs.

Price

■ Volume discount price					☞ P.37
Quantity	1~9	10~29	30~99	100~200	For larger orders, ask about prices/delivery.
Discount rate	Base unit price	5%	10%	15%	

Base unit price for material equivalent to SKD11

D	EMHD	A—EMHD	EHDD EHDR EHDE EHDG	A—EHDD A—EHDR A—EHDE A—EHDG
6	548	674	2,048	2,174
8	529	655	2,048	2,174
10	529	655	2,048	2,174
13	485	611	2,142	2,268
16	485	611	2,281	2,407
20	542	—	2,413	—
22	693	—	2,520	—
25	806	—	2,602	—
32	1,052	—	2,741	—
38	1,550	—	2,974	—
45	3,263	—	6,187	—
50	4,019	—	7,006	—
56	4,870	—	7,781	—

Base unit price for powdered high-speed steel material

D	EPHDD EPHDR EPHDE EPHDG	A—EPHDD A—EPHDR A—EPHDE A—EPHDG
6	1,184	1,310
8	1,147	1,273
10	1,147	1,273
13	1,115	1,241
16	1,115	1,241
20	1,292	—
25	1,966	—