



SCRAP RETENTION REVERSE ANGULAR BUTTON DIES

— HEADED TYPE —

Patent pending

PRODUCTS DATA

P.1619

Headed type	Shank diameter D tolerance	M H	D dimension	Catalog No.	The hole shape can be selected from A D R E G below.	
	D _{m5}	Equivalent to SKH51 61~64HRC Equivalent to SKD11 60~63HRC Equivalent to SKD11 60~63HRC	D5	SRT-AHD		
			D6~25	SRT-AHD□		
			D4~25	SRT-PAHD		
			D6~25	SRT-PAHD□		
			D +0.005/0	D5		SRTA-AHD
				D6~16		SRTA-AHD□
D4~16	SRTA-PAHD					
D6~16	SRTA-PAHD□					

For powdered high-speed steel 64~67HRC

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

Select a push-in amount of punch greater than FH dimension. Pushing in until the straight part is effective against scrap retention and scrap clogging.

Tip shape	Tip shape	Tip shape	Tip shape	Tip shape
A	D	R	E	G
$P \geq W$ $P - 0.4 \geq 1.5$ (P dimension straight section 1.5mm or longer) $K = \sqrt{P^2 + W^2}$	$P \geq W$ $P - 2R \geq 1.5$ (P dimension straight section 1.5mm or longer) $0.15 \leq R < \frac{W}{2}$ $K = \sqrt{(P-2R)^2 + (W-2R)^2} + 2R$	$P \geq W$ $P - 2R \geq 1.5$ (P dimension straight section 1.5mm or longer) $0.15 \leq R < \frac{W}{2}$	$P > W$	$P > W$ $\sqrt{P^2 - W^2} \geq 1.5$ (P dimension straight section 1.5mm or longer)

D	Shank diameter D tolerance	Catalog No.	L	0.01mm increments				0.005mm increments		Select	0.1mm increments		H	T
				(A)	D R E G	R	MT	C	TS		FH			
5	+0.009/+0.004	(Equivalent to SKH51) (D _{m5}) (D _{+0.005})	5	16 20 22 25 30	2.00~2.50	—	—	—	—	C ≥ 0.060 (But C ≥ 0.050 if the clearance is 10% or below C ≥ 0.050) Clearance 	Level Tensile strength (N/mm²) H 800~ M 600~ L ~599	1.0~3.0	6	3
		A SRT-AHD SRTA-AHD	16	20 22 25 30 35	2.00~3.00	3.00	2.00							
		(Equivalent to SKD11) (D _{m5}) (D _{+0.005})	6	16 20 22 25 30 35	2.00~4.00	4.00	2.00							
		D SRT-AHDD SRTA-AHDD	10	16 20 22 25 30 35 (40)	2.00~6.00	6.00	2.00							
		R SRT-AHDR SRTA-AHDR	13	16 20 22 25 30 35 (40)	3.00~8.00	8.00	2.00							
		E SRT-AHDE SRTA-AHDE	16	16 20 22 25 30 35 (40)	5.00~10.00	10.00	2.00							
		G SRT-AHDG SRTA-AHDG	(20)	16 20 22 25 30 35	7.00~12.00	12.00	3.00							
		(25)	16 20 22 25 30 35	10.00~16.00	16.00	3.00								
		(Equivalent to SKH51) (D _{m5}) (D _{+0.005})	5	16 20 22 25 30	2.00~2.50	—	—							
		A SRT-PAHD SRTA-PAHD	6	16 20 22 25 30 35	2.00~3.00	3.00	2.00							
D SRT-PAHDD SRTA-PAHDD	10	16 20 22 25 30 35	2.00~6.00	6.00	2.00									
R SRT-PAHDR SRTA-PAHDR	13	16 20 22 25 30 35	3.00~8.00	8.00	2.00									
E SRT-PAHDE SRTA-PAHDE	16	16 20 22 25 30 35	5.00~10.00	10.00	2.00									
G SRT-PAHDG SRTA-PAHDG	(20)	16 20 22 25 30 35	7.00~12.00	12.00	3.00									
(25)	16 20 22 25 30 35	10.00~16.00	16.00	3.00										

0.15 ≤ R < W/2 (R only)

MT ≥ 0.5

Select the level of tensile strength

D = (20) (25) are specifications available for shank diameter tolerance of D_{m5} only

Use with the clearance (C) less than 20% of the processed plate material thickness (MT), otherwise the effect will not be as expected. Clearance (C) ≤ Proceed plate material thickness (MT) × 20%

L = (40) is specifications available for SRT-AHD only

P dimension will change if regrinding is applied. Note that the change amount varies with the taper width (max. 0.05mm on one side) and taper depth & regrinding amount.

Order	Catalog No.	L	P	W	R (R only)	MT	C	TS	FH
	SRT-AHD16	25	P9.2			MT1.0	C0.1	H	FH2.0
	SRT-AHDR13	25	P6.20	W2.00	R0.20	MT1.5	C0.105	H	FH2.0

Days to Ship **Quotation**

Alterations	Catalog No.	L (LC-LCT-LMT)	P (PC)	W (WC)	R	MT	C	TS	FH	(HC-TC...etc.)
	SRT-AHD6	16	P2.47			MT1.50	C0.105	H	FH2.0	HC8

Alterations	Code	(A)	D R E G	1Code
Alterations to shaped hole	PC WC	Shaped hole diameter change min: $P > \frac{PC}{WC} \geq \frac{P \cdot W_{min}}{2} \geq 2.00$ 0.01 mm increments		
		max: $P < \frac{PC}{WC} \leq P \cdot K_{max} + 0.2$ 0.01 mm increments		
Alterations to full length	LC	Full length change $10 \leq LC < L$ 0.1 mm increments (If combined with LK-LKZ-CKC-MKC, then 0.01 mm increments can be selected.) Press-in lead is shortened by (L-LC).		
	LKC	Full length tolerance change $L +0.4 \Rightarrow +0.05$ $-0.2 \Rightarrow 0$ Cannot be used for L(LC) < 10.		
	LKZ	Full length tolerance change $L +0.4 \Rightarrow +0.01$ $-0.2 \Rightarrow 0$ 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 LKC Head thickness tolerance change + Full length tolerance change $T +0.3 \Rightarrow +0.02$ $L +0.4 \Rightarrow +0.05$ $0 \Rightarrow -0.02$ $-0.2 \Rightarrow 0$		
	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.		Quotation
		TKM LKC Head thickness tolerance change + Full length tolerance change $T +0.3 \Rightarrow 0$ $L +0.4 \Rightarrow +0.05$ $0 \Rightarrow -0.02$ $-0.2 \Rightarrow 0$		
	LCT	Changes to head thickness tolerance, full length, and full length tolerance are processed using a single code. The ordering process is the same as for LC. The machining limits and notes (P) are the same as for each individual alteration.		Quotation
		TKC LC LKC Head thickness + Full length + Full length tolerance change tolerance change 0.01 mm increments Cannot be used for L < 16.		
	LMT	Changes to head thickness tolerance, full length, and full length tolerance are processed using a single code. The ordering process is the same as for LC. The machining limits and notes (P) are the same as for each individual alteration.		Quotation
TKM LC LKC Head thickness + Full length + Full length tolerance change tolerance change 0.01 mm increments Cannot be used for L < 16.				

Price **Quotation**

Alterations	Code	(A)	D R E G	1Code																		
Alterations to head	HC	Head diameter change $D \leq HC < H$ 0.1 mm increments																				
	TC	Head thickness change $2 \leq TC < T$ 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		Double key flats at 0° and a selected angle 1° increments																		
		Cannot be combined with KC-WKC. Cannot be used for L(LC) < 16.		Cannot be combined with KC-WKC. Cannot be used for L(LC) < 16.																		
TKC	Head thickness tolerance change $T +0.3 \Rightarrow +0.02$ $0 \Rightarrow 0$ Cannot be used for L(LC) < 16.			Quotation																		
	TKM Head thickness tolerance change $T +0.3 \Rightarrow 0$ $0 \Rightarrow -0.02$ 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.			Quotation																		
	ANF Angular angle change $0.6 \leq ANF \leq 1.2$ 0.2° increments $d \leq d_{max}$ $d = P + 2(L-B) \tan(ANF)$ $P - B \tan(ANF) \geq 0.6$ $W - B \tan(ANF) \geq 0.6$		<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
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