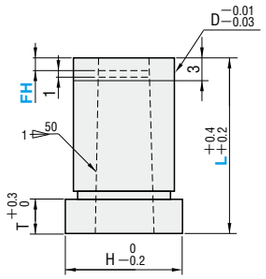
SCRAP RETENTION REVERSE ANGULAR BUTTON DIES
—HEADED TYPE—

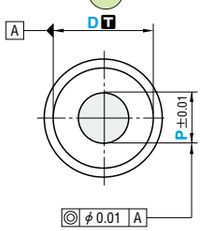
Patent pending

PRODUCTS DATA P.1619

Headed type	Shank diameter D T tolerance	M H	D dimension	Catalog No.	The hole shape can be selected from Ⓐ D R E G below.
 RoHS For shank diameter tolerance D T, select either m5 or $^{+0.005}_{0}$	D_{m5}	Equivalent to SKH51 61～64HRC	D5	SRT—AHD	
		Equivalent to SKD11 60～63HRC	D6～25		
		Equivalent to SKD11 60～63HRC	D6～25	SRT—AHD□	
		Powdered high-speed steel 64～67HRC	D4～25	SRT—PAHD	
			D6～25	SRT—PAHD□	
	$D^{+0.005}_{0}$	Equivalent to SKH51 61～64HRC	D5	SRTA—AHD	
		Equivalent to SKD11 60～63HRC	D6～16		
		Equivalent to SKD11 60～63HRC	D6～16	SRTA—AHD□	
		Powdered high-speed steel 64～67HRC	D4～16	SRTA—PAHD	
			D6～16	SRTA—PAHD□	

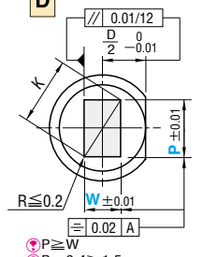
Ⓨ Select a push-in amount of punch greater than FH dimension. Pushing in until the straight part is effective against scrap retention and scrap clogging.

Tip shape A



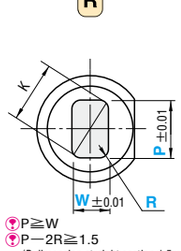
Ⓨ P≧W
Ⓨ P−0.4≧1.5 (P dimension straight section 1.5mm or longer)
Ⓨ K=$\sqrt{P^2+W^2}$

Tip shape D

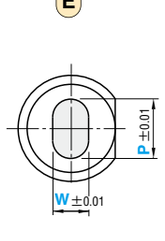


Ⓨ P≧W
Ⓨ P−2R≧1.5 (P dimension straight section 1.5mm or longer)
Ⓨ 0.15≦R＜$\frac{W}{2}$
Ⓨ K=$\sqrt{(P-2R)^2+(W-2R)^2+2R}$

Tip shape R

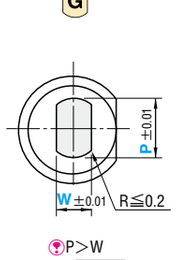


Tip shape E



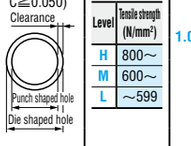
Ⓨ P＞W

Tip shape G



Ⓨ P＞W
Ⓨ $\sqrt{P^2-W^2}$≧1.5 (P dimension straight section 1.5mm or longer)

D	Shank diameter D T tolerance m5	Shank diameter D T tolerance +0.005 0	Catalog No. Type	Catalog No. D	L	0.01mm increments Ⓐ min.P max.	0.01mm increments D R E G P-Kmax.	0.01mm increments D R E G P-Wmin.	0.01mm increments Ⓡ R	0.01mm increments MT (workpiece material thickness)	0.005mm increments C (clearance)	Select TS (Tensile strength (N/mm²))	0.1mm increments FH (Taper depth)	H	T
5	+0.009 +0.004		(Equivalent to SKH51) (Dm5) (D+0.005 0) Ⓐ SRT—AHD SRTA—AHD	5	16 20 22 25 30	2.00～2.50	—	—	0.15≦R＜W/2 (Ⓡ only)	MT≧0.5	C≧0.060 (But C≧0.050 if the clearance is 10% or below C≧0.050)	Select the level of tensile strength	1.0～3.0	6	3
6				6	16 20 22 25 30 35	2.00～3.00	3.00	2.00						9	
8	+0.012		(Equivalent to SKD11) (Dm5) (D+0.005 0) Ⓐ SRT—AHD SRTA—AHD	8	16 20 22 25 30 35	2.00～4.00	4.00	2.00						11	
10	+0.006			10	16 20 22 25 30 35 (40)	2.00～6.00	6.00	2.00						13	
13	+0.015		Ⓓ SRT—AHDD SRTA—AHDD	13	16 20 22 25 30 35 (40)	3.00～8.00	8.00	2.00						16	5
16	+0.007		Ⓡ SRT—AHDR SRTA—AHDR	16	16 20 22 25 30 35 (40)	5.00～10.00	10.00	2.00						19	
(20)	+0.017	+0.005 0	Ⓔ SRT—AHDE SRTA—AHDE	(20)	16 20 22 25 30 35	7.00～12.00	12.00	3.00						23	
(25)	+0.008		Ⓖ SRT—AHDG SRTA—AHDG	(25)	16 20 22 25 30 35	10.00～16.00	16.00	3.00						28	
5	+0.009 +0.004		(Powdered high-speed sttel) (Dm5) (D+0.005 0) Ⓐ SRT—PAHD SRTA—PAHD	5	16 20 22 25 30	2.00～2.50	—	—						6	3
6				6	16 20 22 25 30 35	2.00～3.00	3.00	2.00						9	
8	+0.012			8	16 20 22 25 30 35	2.00～4.00	4.00	2.00						11	
10	+0.006			10	16 20 22 25 30 35	2.00～6.00	6.00	2.00						13	
13	+0.015		Ⓓ SRT—PAHDD SRTA—PAHDD	13	16 20 22 25 30 35	3.00～8.00	8.00	2.00						16	5
16	+0.007		Ⓡ SRT—PAHDR SRTA—PAHDR	16	16 20 22 25 30 35	5.00～10.00	10.00	2.00						19	
(20)	+0.017		Ⓔ SRT—PAHDE SRTA—PAHDE	(20)	16 20 22 25 30 35	7.00～12.00	12.00	3.00						23	
(25)	+0.008		Ⓖ SRT—PAHDG SRTA—PAHDG	(25)	16 20 22 25 30 35	10.00～16.00	16.00	3.00						28	



Ⓨ 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.

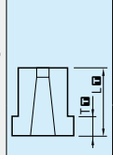
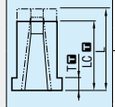
Order

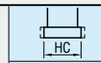
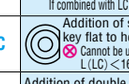
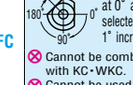
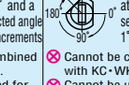
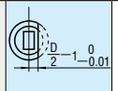
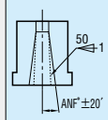
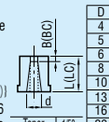
Catalog No.	L	P	W	R (Ⓡ only)	MT	C	TS	FH
SRT—AHD16	25	P9.2			MT1.0	C0.1	H	FH2.0
SRT—AHDR13	25	P6.20	W2.00	R0.20	MT1.5	C0.105	H	FH2.0

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	Ⓐ	D R E G	1Code
Alterations to shaped hole		PC WC	Shaped hole diameter change min: $\frac{P}{W}>\frac{PC}{WC}\geqq\frac{P\cdot Wmin}{2}\geqq 2.00$ 0.01mm increments max: $\frac{P}{W}<\frac{PC}{WC}\leqq P\cdot Kmax.+0.2$ 0.01mm increments		
Alterations to full length		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).		Quotation
		LKC	Full length tolerance change $L^{+0.4}_{+0.2}$ ⇨ $^{+0.05}_{0}$ ⊗ Cannot be used for L(LC)＜10.		
		LKZ	Full length tolerance change $L^{+0.4}_{+0.2}$ ⇨ $^{+0.01}_{0}$ ⊗ 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. **TKC** Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{+0.02}_{0}$ + **LKC** Full length tolerance change $L^{+0.4}_{+0.2}$ ⇨ $^{+0.05}_{0}$		
		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. **TKM** Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{0}_{-0.02}$ + **LKC** Full length tolerance change $L^{+0.4}_{+0.2}$ ⇨ $^{+0.05}_{0}$		
		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 (Ⓨ) are the same as for each individual alternation. **TKC** Head thickness tolerance change + **LC** Full length change + **LKC** Full length 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 (Ⓨ) are the same as for each individual alternation. **TKM** Head thickness tolerance change + **LC** Full length change + **LKC** Full length tolerance change Ⓨ 0.01 mm increments ⊗ Cannot be used for L＜16.		

Alterations		Code	Ⓐ	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.		Quotation
		TKC	Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{+0.02}_{0}$ ⊗ Cannot be used for L(LC)＜16.		
		TKM	Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{0}_{-0.02}$ ⊗ Cannot be used for L(LC)＜16.		
Others		SKC	Single key flat on shank Ⓨ Can be used with D≧8 and L(LC)≧20 ⊗ Cannot be combined with KC·WKC·KFC·ANF.		
		ANF	Angular angle change 0.6≦ANF≦1.2 0.2° increments Ⓨ d≦dmax Ⓨ d=P+2((L—B)tan(ANF°)) Ⓨ P—Btan(ANF°)≧0.6 W—Btan(ANF°)≧0.6 	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 Taper: Angle (one side) 1/50 0.573°	

Price Quotation

BUTTON DIES