

# EMBOSSING PUNCHES / KNOCKOUT PIN SETS FOR EMBOSSING PUNCHES

Type		Catalog No.	Shape
—SR type—	<b>RoHS</b> Equivalent to SKH51 61~64HRC	<b>SHSR</b>	<p><math>R \leq 0.5</math> <math>SR = P/2</math> <math>H - 0.2</math> <math>T + 0.3</math> <math>L + 0.3</math> <math>P + 0.01</math></p>
	Powdered high-speed steel 64~67HRC	<b>PHSR</b>	
—Stepped SR type—	<b>RoHS</b> Equivalent to SKD11 60~63HRC	<b>SPSR</b>	<p><math>R \leq 0.5</math> <math>R \leq 0.3</math> <math>SR = V/2</math> <math>H - 0.2</math> <math>5 + 0.3</math> <math>L + 0.05</math> <math>V + 0.01</math> <math>P + 0.01</math></p>
	Powdered high-speed steel 64~67HRC	<b>PHSRR</b>	
—Stepped and tapered type—	<b>RoHS</b> Equivalent to SKD11 60~63HRC	<b>SPSTT</b>	<p><math>R \leq 0.5</math> <math>R \leq 0.3</math> <math>H - 0.2</math> <math>5 + 0.3</math> <math>F + 0.3</math> <math>L + 0.3</math> <math>V + 0.1</math> <math>P + 0.01</math></p> <p> <math>V \leq P - 0.6</math>  <math>d \geq 0.5</math>  <math>d = V - 2(L - F) \tan A</math> </p>
	Equivalent to SKH51 61~64HRC	<b>SHSTT</b>	
	Powdered high-speed steel 64~67HRC	<b>PHSTT</b>	

SR type		Catalog No.		0.1mm increments		0.01mm increments		Base unit price 1 ~ 9 pieces	
H	T	Type	No.	L	min. P	max. P	SHSR	PHSR	
2	3	SHSR PHSR	1.0	20.0 ~ 30.0	0.50 ~ 1.00				
2.6			1.6		1.00 ~ 1.60				
3			2.0	20.0 ~ 50.0	1.60 ~ 2.00				
3.5			2.5	2.00 ~ 2.50					
5	5		3		2.50 ~ 3.00				
7			4		3.00 ~ 4.00				
8			5	20.0 ~ 80.0	4.00 ~ 5.00				
9			6	5.00 ~ 6.00					
11			8	6.00 ~ 8.00					
13			10	8.00 ~ 10.00					

Stepped SR type		Catalog No.		0.1mm increments		0.01mm increments		Base unit price 1 ~ 9 pieces	
H	T	Type	No.	L	min. P	max. P	V	SPSR	PHSRR
5	5	SPSR PHSRR	3	20.0 ~ 80.0	2.00 ~ 3.00	P/2 ≤ V < P			
7			4		3.00 ~ 4.00				
8			5		4.00 ~ 5.00				
9			6		5.00 ~ 6.00				
11			8		6.00 ~ 8.00				
13			10		8.00 ~ 10.00				

Stepped and tapered type		Catalog No.		0.1mm increments		0.01mm increments		1° increments		0.1mm increments		Base unit price 1 ~ 9 pieces	
H	T	Type	No.	L	min. P	max. P	V	A	F	SPSTT	SHSTT	PHSTT	
5	5	SPSTT SHSTT PHSTT	3	20.0 ~ 80.0	2.00 ~ 3.00	P/2 ≤ V ≤ P - 0.6	0 < A < 90	F ≤ L - 2					
7			4		3.00 ~ 4.00								
8			5		4.00 ~ 5.00								
9			6		5.00 ~ 6.00								
11			8		6.00 ~ 8.00								
13			10		8.00 ~ 10.00								

**Order** Catalog No. — **L** — **P** — **V** — **A** — **F**  
 SPSR 3 — 40.0 — P2.80 — V1.50  
 SPSTT 6 — 40.0 — P6.00 — V4.00 — A23 — F38.0

**Days to Ship** **Quotation**

**Price** **Quotation**

**Alterations** Catalog No. — **L** — **P** — **V** — **A** — **F** — (RSC-LKC, etc.)  
 SHSR 3 — 40.0 — P2.80 — LKC

Alteration	Code	Spec.	1Code
<b>Alterations to head</b>	<b>HC</b>	Head diameter change $P \leq HC < H$ 0.1mm increments	
	<b>TC</b>	Head thickness change $2 \leq TC < T$ 0.1mm increments (If combined with TKC-TKM, 0.01mm increments can be selected.) The full length remains as specified.	
	<b>TCC</b>	Chamfering of head This improves the strength of the punch head.  P.1611 0.5 ≤ TCC ≤ (H - P) / 2 If H ≤ 5, then TCC is 0.5. Cannot be used for H < 2.6.	<b>Quotation</b>
	<b>KC</b>	Addition of single key flat to head Can be used for No. 3 and above.	
	<b>WKC</b>	Addition of double key flats in parallel Can be used for No. 3 and above.	
	<b>TKC</b>	Head thickness tolerance change $T + 0.3 \rightarrow +0.02$ $0$	
<b>TKM</b>	Head thickness tolerance change $T + 0.3 \rightarrow 0$ $-0.02$		

Alteration	Code	Spec.	1Code
<b>Alterations to tip</b>	<b>RSC</b>	R change R of 0.5 or less is added to tip. Can be used for SPSTT·SHSTT·PHSTT. Can be used for d ≥ 1.5.	
	<b>AKC</b>	Angle A tolerance change $A \pm 30^\circ \rightarrow \pm 10^\circ$ Can be used for SPSTT·SHSTT·PHSTT.	<b>Quotation</b>
<b>Others</b>	<b>LKC</b>	Full length tolerance change L dimension can be selected in 0.01mm increments. $L + 0.3 \rightarrow +0.05$ $0$ Cannot be used for SPSR·PHSRR.	
	<b>FKC</b>	F dimension tolerance change Can be used for SPSTT·SHSTT·PHSTT. $F + 0.3 \rightarrow +0.05$ $0$	

**Example**

**Knockout pin sets for embossing punches** **RoHS**

**BMPS** (①②③) **BMP** (①)

③MSW10 M10×P1.5  
②Coil spring  
①BMP  
 $D - 0.3$   
 $R1.0$   
 $R0.3$   
 $L \pm 0.1$   
①BMP SK4 (Raw material)

Catalog No.		L		②Coil spring		Base unit price 1~9 sets		Base unit price 1~9 pieces	
Type	D			Type	FL	BMPS (①②③)	BMP (①)		
BMPS (①②③) BMP (①)	1.5	20	25	SWL	20	<b>Quotation</b>			
	2.0				25				
	2.5				30				
	3.0				35				
	3.5				40				
4.0	45								
					50				
					60				

**Order** Catalog No. — **L** — **②Coil spring**  
 BMPS 2.0 — 30 — SWL 30  
 BMP 2.0 — 30

P.1417 ~ 1424

**Days to Ship** **Quotation**

**Price** **Quotation**

**Example** **Example of BMPS use** - Select an alteration to the tip so that it matches the shape of the workpiece.