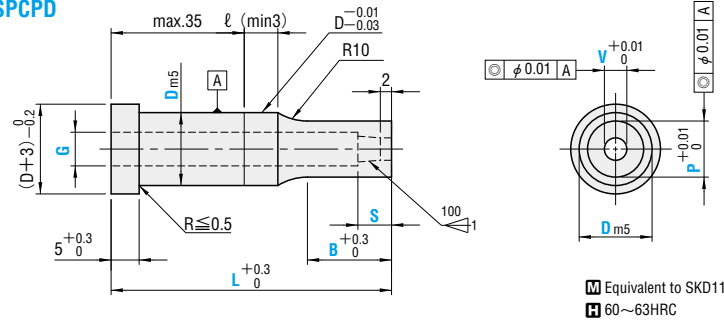


BLANKING PUNCHES



RoHS

SPCPD



M Equivalent to SKD11
H 60~63HRC

Catalog No.		0.1mm increments	0.01mm increments			0.1mm increments	0.1mm increments		G	Base unit price 1~9 pieces	
Type	D	L	P	V		B	S				
				min.	max.		min.	max.			
SPCPD	8	35.0~60.0	4.80 ~ 7.99	1.50	G—0.5	4.0≤B≤19.0 and B≤L—27	3	(10)	G≤P×0.6 and P-G 2 ≥1.20	0.2mm increments	
	10		4.80 ~ 9.99	1.50		4.0≤B≤25.0 and B≤L—27				12	0.5mm increments
	13		5.80 ~ 12.99	1.50							
	16		9.80 ~ 15.99	2.50							
	20	40.0~60.0	12.80 ~ 19.99	3.50		4.0≤B≤25.0 and B≤L—32			15		
	25		17.80 ~ 24.99	5.00							
	32		19.80 ~ 31.99	7.50							

Quotation

- ⚠ Smax. (10) ... When $V \leq 1.99$, S is 4 mm at maximum.
- ⚠ $P > D - 0.03$... If $P > D - 0.03$, $D - 0.03^{0.01}$ (press-in lead) is not included.



Order

Catalog No.	L	P	V	B	S	G
SPCPD 20	55.0	P14.65	V7.35	B8	S10	G8.5



Example

Be aware that when the difference between P dimension and V dimension or G dimension is small (thin walls), the punch may lack sufficient strength depending on the workpiece.



Days to Ship

Quotation

**Price**

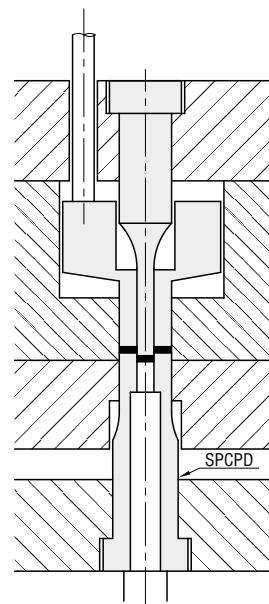
Quotation



Alterations

 Catalog No. — **L** — **P** — **V** — **B** — **S** — **G** — (TKC•LKC, etc.)
SPCPD 20 — 55.0 — P14.65 — V7.35 — B8 — S10 — G8.5 — TKC

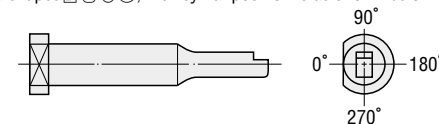
Alteration	Code	Spec.	1Code
Alterations to tip		PKC Tip tolerance change $P^{+0.01}_{-0} \Rightarrow +0.005$ ⚡ (P dimension can be selected in 0.001 mm increments.)	
		VKC Tip tolerance change $V^{+0.01}_{-0} \Rightarrow +0.005$ ⚡ (V dimension can be selected in 0.001 mm increments.)	
Full length		LKC Full length tolerance change $L^{+0.3}_{-0} \Rightarrow +0.05$	
Alterations to head		KC Addition of single key flat to head	Quotation
		WKC Addition of double key flats in parallel	
		HC Head diameter change $D \leq HC < (D+3)$ 0.1 mm increments	
		TC Head thickness change $2 \leq TC < 5$ 0.1mm increments (If combined with TKC-TKM, 0.01mm increments can be selected.) ⚡ The full length remains as specified.	
		TKC Head thickness tolerance change $T^{+0.3}_{-0} \Rightarrow +0.02$	
Shank		TKM Head thickness tolerance change $T^{+0.3}_{-0} \Rightarrow -0.02$	
		NDC No press-in lead $\ell \geq 3 \Rightarrow \ell = 0$	



PUNCH TIP SHEAR ANGLE ALTERATIONS

Shape	Code	Tip shape		1Code										
		(A)	D R E G											
	1F	—	● $1 \leq S \leq B$ ● $S \leq S_{max}$. ● $1 \leq E \leq P/2$ ● $U \leq S - 1$ ● $0.2 \leq U \leq E$ ● $Q = 0$ or $1 \leq Q \leq P/2$ ⊗ Cannot be used for LK·LKZ. ⊗ E G shape Q dimension cannot be selected. - S: 0.1mm increments U: 0.1mm increments - E: 0.01mm increments Q: 0.01mm increments <table><tr><th>P - E</th><th>S_{max}</th></tr><tr><td>1.00~1.99</td><td>4.0</td></tr><tr><td>2.00~2.49</td><td>7.0</td></tr><tr><td>2.50~3.99</td><td>10.0</td></tr><tr><td>4.00~</td><td>13.0</td></tr></table>	P - E	S _{max}	1.00~1.99	4.0	2.00~2.49	7.0	2.50~3.99	10.0	4.00~	13.0	
P - E	S _{max}													
1.00~1.99	4.0													
2.00~2.49	7.0													
2.50~3.99	10.0													
4.00~	13.0													
	2F	● $0^\circ < A \leq 15^\circ$ ● $P \tan A + 2 < B$ ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. - A: 1° increments	● $0^\circ < A \leq 15^\circ$ ● $P \tan A + 2 < B$ ⊗ Cannot be used for LK·LKZ. A: 1° increments											
	3F	● $0^\circ < A \leq 15^\circ$ ● $P/2 \tan A + 2 < B$ ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. - A: 1° increments	● $0^\circ < A \leq 15^\circ$ ● $P/2 \tan A + 2 < B$ ⊗ Cannot be used for LK·LKZ. A: 1° increments											
	4F	● $0^\circ < A \leq 15^\circ$ ● $P/2 \tan A < B$ ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. - A: 1° increments	● $0^\circ < A \leq 15^\circ$ ● $P/2 \tan A < B$ ⊗ Cannot be used for LK·LKZ. A: 1° increments	Quotation										
	5F	● $P + 1 \leq R \leq P + 5$ ⊙ Full length tolerance $L \pm 0.3$ ⊙ Not spherical machining. ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. ⊗ Cannot be combined with PKC. - R: 0.1mm increments	● $P + 1 \leq R \leq P + 5$ ⊙ Full length tolerance $L \pm 0.3$ ⊙ No spherical surface. ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PKC. - R: 0.1mm increments											
	6F	● $S < R$ ● $S \geq 0.5$ ● $2\sqrt{ R^2 - (R - S)^2 } < P$ ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. - R: 0.1mm increments - S: 0.1mm increments	● $S < R$ ● $S \geq 0.5$ ● $2\sqrt{ R^2 - (R - S)^2 } < P$ ⊗ Cannot be used for LK·LKZ. R: 0.1mm increments S: 0.1mm increments											
	7F	● $0^\circ < A \leq 45^\circ$ ● $S \leq 0.5$ ● $S / \tan A < P/2 - 0.3$ ⊗ Cannot be used for LK·LKZ. ⊗ Cannot be combined with PRC·PCC·GC. ⊗ Cannot be combined with KC·WKC·KFC·SKC. - A: 1° increments, S: 0.1mm increments	—											

Applicable ranges for the above alterations
 Tip shape **A** → $P \geq 2.0\text{mm}$, $B \leq 10P$ Tip shape **D R E G** → $W \geq 2.0\text{mm}$, $B \leq 10W$
 For tip shape **A** no key flat is provided.
 For tip shapes **D R E G**, the key flat position is as shown below.



■ Effect of the shear angle

The benefits of adding a shear angle to the punch tip include a reduction in punching load, reduced noise, and prevention of scrap lifting.



Order

Standard order code

- **Punch tip shear angle alteration**

Catalog No. — **L** — **Tip dimension (P,W,R)** — **Code** — **Specified dimension (S·E·U·Q·A)**
SPEL 16 — 70 — P12.00—W6.00 — 3F — A11



Days to Ship

Quotation

Type	Catalog No.	Page
	SP□□	P.55
	SH□□	
	PH□□	
	SP□□-C	P.113
	AP□□	P.137
	APH□□	
	AP□□-C	P.177
	MP□□	P.197