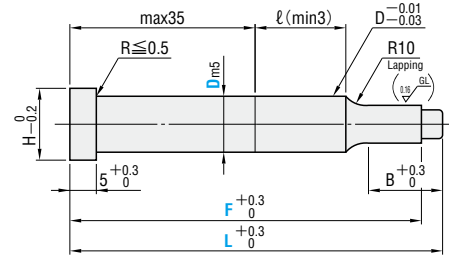


# DRAWING PUNCHES

—NORMAL · LAPPING—

Type	M	H	Shank diameter D	Catalog No.
Regular type	Equivalent to SKD11	60~63HRC	3~25	SP Lapping L-SP
	Equivalent to SKH51	61~64HRC		SH Lapping L-SH
	Powdered high-speed steel	64~67HRC		PH Lapping L-PH
Punch with locating dowel hole	Equivalent to SKD11	60~63HRC	10~25	SP-C Lapping L-SP-C
Tapped punch	Equivalent to SKD11	60~63HRC	5~25	MP Lapping L-MP
	Powdered high-speed steel	64~67HRC		MPH Lapping L-MPH



SP-C...T=5<sup>+0.03</sup>/<sub>+0.01</sub>  
 Lapping is applied to the area from the punch tip up to B dimension. (However end face is not lapped.)

Shape P.673

B	H	(M)	Catalog No.		0.1mm increments		0.01mm increments			
			Type	Shape	D	L	min. P max.*	Vmin.		
8	5	3	Regular type (D3~25)	SP	L-SP	2A~4A·6A	40.0~80.0	2.00~	2.99	1.00
	7			SH	L-SH			2.00~	3.99	1.00
	8			PH	L-PH			2.00~	4.99	1.20
	9							2.00~	5.99	1.20
13	11	5	With locating dowel hole (D10~25)	SP-C	L-SP-C	2C~10C	(40.0~49.9)	3.00~	7.99	1.50
	13							3.00~	9.99	1.50
	16							6.00~	12.99	2.00
19	19	6	Tapped (D5~25)	MP	L-MP	2D~11D	50.0~100.0	10.00~	15.99	3.00
	23			MPH	L-MPH			13.00~	19.99	3.00
	20							18.00~	24.99	4.00
	25									

Lapping cannot be used for shapes 2A·6A·8B·2C·3C·4C·6C·2D·3D·4D·5D·8D·9D·10D·11D.

L (40.0~49.9)·B=8 If full length L is (40.0~49.9), tip length B is 8mm in all cases.

P>D-0.03... $\ell=0$  If P>D-0.03, D<sup>-0.01</sup>/<sub>-0.03</sub> (press-in lead) is not included.

P can be the same value as D. P=D...P m5· $\ell=0$  \* If P=D, tolerance of P is m5 and D<sup>-0.01</sup>/<sub>-0.03</sub> (press-in lead) is not included.

(M) ...Tapped punch Can be used for MP·L-MP·MPH·L-MPH only.

Alterations Catalog No. — L — P(PC)·E·V·R·Q·A·K·F·S — (BC·HC, etc.)  
 SP2C 16 — 75.0 — P12.00—V9.00—A30—F65.0—S3 — LKC—FKC

Alteration	Code	Spec.	1Code
Alterations to tip	PC	P dimension change PC $\geq \frac{P_{min}}{2} \geq V_{min}$ . 0.01mm increments	Quotation
	BC	Tip length change 2 $\leq BC \leq BC_{max}$ . 0.1mm increments Full length L must be at least 30mm longer than tip length BC.	
	PKC	P dimension tolerance change * Cannot be used with lapping. P $\pm 0.01 \rightarrow \pm 0.005$	
	AKC	Angle A tolerance change * Cannot be used with lapping. A $\pm 30' \rightarrow \pm 10'$	
	KKC	Angle K tolerance change * Cannot be used with lapping. K $\pm 30' \rightarrow \pm 10'$	
	RKC	R dimension tolerance * Cannot be used with lapping. R $\pm 0.5 \rightarrow \pm 0.05$ Can be used for 0.1 $\leq R \leq 10$ .	
	QKC	Q dimension tolerance * Cannot be used with lapping. Q $\pm 0.5 \rightarrow \pm 0.05$ Can be used for 0.1 $\leq Q \leq 10$ .	
Alterations to head	HC	Head diameter change D $\leq HC < H$ 0.1mm 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.	

Alteration	Code	Spec.	1Code
Alterations to head	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.1 mm increments 0.5 $\leq TCC \leq (H-D)/2$ If H $\leq 5$ , then TCC is 0.5. * Cannot be combined with SRC.	
	KC	Addition of single key flat * Cannot be used for D5 MP·MPH·L-MP·L-MPH types.	
	WKC	Addition of double key flats in parallel * Cannot be used for D5 MP·MPH·L-MP·L-MPH types.	
	RC	Head thickness is machined to a tolerance of -0.04~0 relative to the retainer surface.	
	TKC	Head thickness tolerance change * Cannot be used for punches with locating dowel holes. 5 $\pm 0.3 \rightarrow \pm 0.02$	
Others	TKM	Head thickness tolerance change * Cannot be used for punches with locating dowel holes. 5 $\pm 0.3 \rightarrow 0$	
	LKC	L dimension tolerance change L $\pm 0.3 \rightarrow \pm 0.05$	
	FKC	F dimension tolerance change F $\pm 0.3 \rightarrow \pm 0.05$	
NDC	No press-in lead $\ell \geq 3 \rightarrow \ell = 0$ * Cannot be used for tapped punches.		

Order Catalog No. — L — P·E·V·R·Q·A·K·F·S  
 SP2C 16 — 70.0 — P12.00—V9.00—A30—F65.0—S3

Days to Ship Quotation

Price Quotation