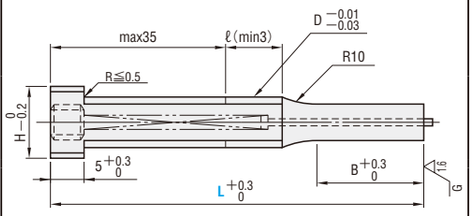
KEY FLAT SHANK JECTOR PUNCHES
—NORMAL・TiCN COATING—

PRODUCTS DATA P.1091・1094

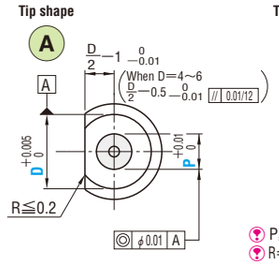
Calculating the projection length of the jector pin (reference value) P.185

- For details of jector holes, refer to Jector Punch Blanks. P.180
- For details of jector pins, refer to Jector Pin Sets. P.185

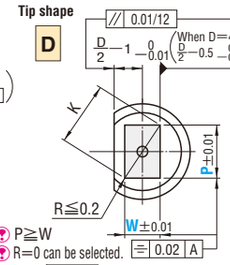
Type	Shank diameter D T tolerance	M H	Catalog No. Type	Tip shape	B Tip length	The tip shape can be selected from Tip shape A～G in the figure below.
 RoHS	$D^{+0.005}_{0}$	D4～6 SKH51 61～64HRC D8～25 Equivalent to SKD11 60～63HRC	G—SJ G—SJV	A D R E G	S L X	 Tip length (B) X>L>S
		Powdered high-speed steel 64～67HRC	G—PJ G—PJV			
		Powdered high-speed steel 64～67HRC Surface 3000HV	TiCN coating GH—PJ GH—PJV			

The tip end of a TiCN coating punch is ground before the coating is applied.

Tip shape A

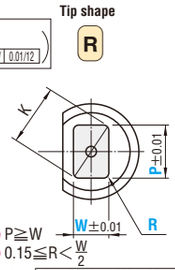


Tip shape D



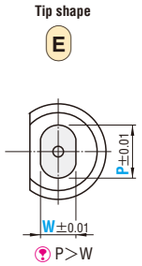
- P≧W
- R=0 can be selected.
- $K=\sqrt{P^2+W^2}$

Tip shape R



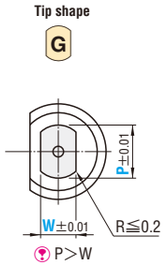
- P≧W
- $0.15 \leqq R < \frac{W}{2}$
- $K=\sqrt{(P-2R)^2+(W-2R)^2}+2R$

Tip shape E



- P>W

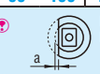
Tip shape G



- P>W

Catalog No. Type	Tip shape	B Tip length	D	L	0.01mm increments Ⓐ min. P max.	Ⓓ Ⓡ Ⓔ Ⓖ P・Kmax.	Ⓓ Ⓡ Ⓔ Ⓖ W max.	Ⓓ Ⓡ Ⓔ Ⓖ P・Wmin.	Ⓡ R	B	H
G—SJ G—PJ	A D R E G	S	(4)	40 50 60 70 80	1.00～ 2.80	3.97	2.80	1.00	$0.15 \leqq R < \frac{W}{2}$ (Ⓡ only)	8	7
			(5)	40 50 60 70 80	2.00～ 3.80	4.97	3.80	2.00			8
			(6)	40 50 60 70 80	2.00～ 4.80	5.97	4.80	2.00			9
Spring reinforced type (D8～25) G—SJV G—PJV			8	(40) 50 60 70 80 90 100	3.00～ 5.80	7.97	5.80	3.00		13	11
			10	(40) 50 60 70 80 90 100	3.00～ 7.80	9.97	7.80	3.00			13
			13	(40) 50 60 70 80 90 100	6.00～ 10.80	12.97	10.80	6.00			16
			16	(40) (50) 60 70 80 90 100	10.00～ 13.80	15.97	13.80	6.00		19	19
			20	(40) (50) 60 70 80 90 100	13.00～ 17.80	19.97	17.80	6.00			23
			25	(40) (50) 60 70 80 90 100	18.00～ 22.80	24.97	22.80	6.00			28
−TiCN coating− GH—PJ		L	(4)	50 60 70 80	1.00～ 2.80	3.97	2.80	2.00		13	7
			(5)	50 60 70 80	2.00～ 3.80	4.97	3.80	2.00			8
			(6)	50 60 70 80	2.00～ 4.80	5.97	4.80	2.00			9
Spring reinforced type (D8～25) GH—PJV			8	50 60 70 80 90 100	3.00～ 5.80	7.97	5.80	3.00		19	11
			10	50 60 70 80 90 100	3.00～ 7.80	9.97	7.80	3.00			13
			13	50 60 70 80 90 100	6.00～ 10.80	12.97	10.80	6.00			16
			16	60 70 80 90 100	10.00～ 13.80	15.97	13.80	6.00		25	19
			20	60 70 80 90 100	13.00～ 17.80	19.97	17.80	6.00			23
			25	60 70 80 90 100	18.00～ 22.80	24.97	22.80	6.00			28
G—SJ		X	(5)	60 70 80	2.00～ 3.80	4.97	3.80	3.50		25	8
			(6)	60 70 80	2.00～ 4.80	5.97	4.80	3.50			9
Spring reinforced type (D8～25) G—SJV			8	70 80 90 100	3.00～ 5.80	7.97	5.80	5.00		30	11
			10	70 80 90 100	3.00～ 7.80	9.97	7.80	6.00			13
			13	70 80 90 100	6.00～ 10.80	12.97	10.80	6.00			16
			16	80 90 100	10.00～ 13.80	—			—	40	19
			20	80 90 100	13.00～ 17.80						23
			25	80 90 100	18.00～ 22.80						28

- The spring constants of G—SJV, G—PJV, and GH—PJV are twice those of G—SJ, G—PJ, and G—SJ respectively.
- L(40)…B=6 If full length is (40), tip length is 6 mm in all cases.
- L(50)…B=13 If full length is (50), tip length is 13mm in all cases.
- Ⓓ Ⓡ Ⓔ Ⓖ: P・K>D−0.05…ℓ=0 If P・K>D−0.05 for a shaped punch, $D^{-0.01}_{-0.03}$ (press-in lead) is not included.



- D=4～6…a=0.5 When D dimension is 4 ～ 6, dimension a is 0.5mm.
- D=8～25…a=1 When D dimension is 8 ～ 25, dimension a is 1mm.
- D(4), (5), and (6) are specifications available for G—SJ, G—PJ, and GH—PJ only. Spring reinforced types are available for D8～25 only.

Order

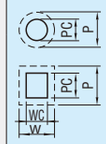
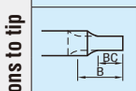
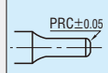
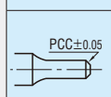
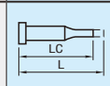
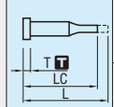
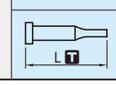
Catalog No.	L	P	W	R (Ⓡ only)
G—SJDS 6	60	P3.00	W2.80	

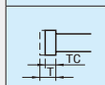
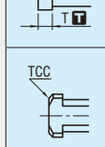
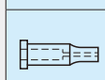
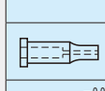
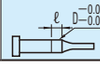
Days to Ship Quotation

■Effect of spring reinforced type
The spring constant is twice that of a standard type jector punch. The large spring load results in more effective scrap removal.

Alterations

Catalog No.	L (LC・LCT・LMT)	P (PC)	W (WC)	R	(BC・HC・TC, etc.)
G—SJDS 6	LC58	P3.00	W2.80		HC8

Alteration		Code	Ⓐ	Ⓓ Ⓡ Ⓔ Ⓖ	1Code
Alterations to tip		PC WC	Tip dimension change PC ≧ PCmin. 0.01 mm increments (If combined with PKC, 0.001 mm increments can be selected.) ⊗ D4 cannot be used with TiCN coating. D / PCmin.: 4 0.900; 5 1.800; 6 1.800; 8 2.500; 10 2.800; 13 5.000; 16 8.000; 20 9.000; 25 9.000	Tip dimension change PC・WC≧PC・WCmin. 0.01mm increments ⊗ Cannot be used for D4. ⊗ Cannot be used for tip X. D / PC・WCmin.: 5 1.80; 6 1.80; 8 2.50; 10 2.80; 13 5.00; 16 5.00; 20 5.00; 25 5.00	Quotation
		BC	Tip length change (shorter than standard) 2≦BC<B 0.1 mm increments The following restriction applies to tip type X with D dimension of 5 or 6. PC / Bmax.: 1.80～1.99 / 20		
		PRC	Rounding of tip side edge 0.3≦PRC≦1 0.1 mm increments (?) PRC≦(P−d_1−0.5)/2 d_1 dimension P.180 ⊗ Cannot be combined with PCC.	—	
		PCC	Chamfering to tip side edge 0.3≦PCC≦1 0.1 mm increments (?) PCC≦(P−d_1−0.5)/2 d_1 dimension P.180 ⊗ Cannot be combined with PRC.	—	
		PKC	Tip tolerance change P +0.01 0 ⇨ +0.005 0 (?) P dimension can be selected in 0.001 mm increments. ⊗ TiCN coating cannot be used for D>13.	Tip tolerance change P・W±0.01 ⇨ +0.01 0	
Alterations to full length		LC	Full length change (reduction in tip length) LC<L 0.1 mm increments (?) Tip length B is reduced by (L−LC). (If combined with LKC・LKZ, 0.01 mm increments can be selected.) (?) Projection length of jector pin is 2 mm.		
		LCT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (?) are the same as for LC. TKC: Head thickness tolerance change T +0.3 0 ⇨ +0.02 0 + LC: Full length change + Full length tolerance change L +0.3 0 ⇨ +0.1 0		
		LMT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (?) are the same as for LC. TKM: Head thickness tolerance change T +0.3 0 ⇨ 0 −0.02 + LC: Full length change + Full length tolerance change L +0.3 0 ⇨ +0.1 0		
		LKC	Full length tolerance change L +0.3 0 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.3 0 ⇨ +0.01 0 ⊗ Cannot be used with TiCN coating.		

Alteration		Code	Ⓐ	Ⓓ Ⓡ Ⓔ Ⓖ	1Code
Alterations to head		WKC	Addition of double key flats in parallel		Quotation
		HC	Head diameter change D≦HC<H 0.1 mm increments		
		TC	Head thickness change 3.5≦TC<5 0.1 mm increments (If combined with TKC・TKM・LCT・LMT, 0.01mm increments can be selected.) (?) Full length L is shortened by (5−TC). If combined with LC・LCT・LMT, full length remains as specified.		
		TKC	Head thickness tolerance change T +0.3 0 ⇨ +0.02 0		
		TKM	Head thickness tolerance change T +0.3 0 ⇨ 0 −0.02		
		TCC	Chamfering of head This improves the strength of the punch head. P.1097 0.1 mm increments 0.5≦TCC≦(H−D)/2 (?) If H≦5, then TCC is 0.5.		
Alterations to shank		SKF	Single key flat on shank, configurable size SKF 0 −0.01 Ⓐ P≦2(SKF−0.1) 0.1mm increments | Ⓓ Ⓡ Ⓔ Ⓖ W≦2(SKF−0.1) 0.1mm increments D4～6 D/2−0.5≦SKF≦D/2−0.1 D8～25 D/2−1.0≦SKF≦D/2−0.1 ⊗ Cannot be combined with WKC.		
		AC	The jector pin is removed to create an air path and the side vent hole is plugged from the inside by inserting a resin (ABS) ring.		
		NC	The jector pin is removed. ⊗ Cannot be combined with AC.		
		NDC	No press-in lead ℓ≧3 ⇨ ℓ=0		

Price Quotation