

JECTOR PUNCHES



Calculating the projection length of the jector pin (reference value) **P.241**

For details of jector holes, refer to Jector Punch Blanks **P.236**
For details of jector pins, refer to Jector Pin Sets **P.241**

Type	Shank diameter D tolerance	M H	Catalog No.		The tip shape can be selected from Tip shape A~G in the figure below.	
			Type	Tip shape	Tip length	Tip length
	Dm5		SJ SJV	A	S	
	D+0.005 0		A-SJ A-SJV	E	X	
			A-PJ A-PJV			

For shank diameter tolerance D, select either m5 or +0.005/0

Tip shape diagrams: A, D, R, E, G. Dimensions include D, L, R, W, P, K, H, and tolerances.

Type	Shank diameter D tolerance	Tip shape	Tip length	0.01 mm increments										B	H
				L					D R E G						
				(4)	(5)	(6)	(7)	(8)	min. P max.	P-Kmax.	P-Wmin.	R	R		
Spring reinforced type (D8~25) SJ SJV PJ PJV	Dm5	S	S	(4)	40	50	60	70	80	1.00~3.99	3.97	1.00	0.15 ≤ R < W/2 (R only)	8	7
				(5)	40	50	60	70	80	2.00~4.99	4.97	2.00			8
				(6)	40	50	60	70	80	2.00~5.99	5.97	2.00			9
				(8)	40	50	60	70	80	3.00~7.99	7.97	3.00			11
				(10)	40	50	60	70	80	6.00~12.99	12.97	6.00			13
				(13)	40	50	60	70	80	10.00~15.99	15.97	6.00			16
Spring reinforced type (D8~25) A-SJ A-SJV A-PJ A-PJV	D+0.005 0	L	L	(4)	50	60	70	80	1.00~3.99	3.97	2.00	0.15 ≤ R < W/2 (R only)	13	7	
				(5)	50	60	70	80	2.00~4.99	4.97	2.00			8	
				(6)	50	60	70	80	2.00~5.99	5.97	2.00			9	
				(8)	50	60	70	80	3.00~7.99	7.97	3.00			11	
				(10)	50	60	70	80	6.00~12.99	12.97	3.00			13	
				(13)	50	60	70	80	10.00~15.99	15.97	6.00			16	
Spring reinforced type (D8~25) SJV SJV A-SJ A-SJV	D+0.005 0	X	X	(5)	60	70	80	2.00~4.99	4.97	3.50	0.15 ≤ R < W/2 (R only)	25	8		
				(6)	60	70	80	2.00~5.99	5.97	3.50			9		
				(8)	70	80	90	100	3.00~7.99	7.97			5.00	11	
				(10)	70	80	90	100	3.00~9.99	9.97			6.00	13	
				(13)	70	80	90	100	6.00~12.99	12.97			6.00	16	
				(16)	80	90	100	10.00~15.99	15.97	6.00			19		
Spring reinforced type (D8~25) A-SJ A-SJV	D+0.005 0			(20)	80	90	100	13.00~19.99	19.97	6.00	0.15 ≤ R < W/2 (R only)	40	23		
				(25)	60	70	80	18.00~24.99	24.97	6.00			28		
				(80)	90	100	18.00~24.99	18.00~24.99	6.00	28					

The spring constants of SJV, PJV, A-SJV, and A-PJV are twice those of SJ, PJ, A-SJ, and A-PJ 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 13 mm in all cases.
 A: P > D - 0.03 → ℓ = 0 If P > D - 0.03 for a round punch, D_{-0.01} (press-in lead) is not included.
 D R E G: P · K > D - 0.05 → ℓ = 0 If P · K > D - 0.05 for a shaped punch, D_{-0.01} (press-in lead) is not included.
 D(4), (5), and (6) are specifications available for SJ, PJ, A-SJ, and A-PJ only. Spring reinforced types are available for D8~25 only.

Order	Catalog No.	L	P	W	R (R only)
	SJDS 6	60	P3.00	W2.80	
	A-SJEL 10	70	P8.50	W4.25	

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 **P** Price **Quotation**
 Catalog No. — L(LC-LCT-LMT) — P(PC) — W(WC) — R — (BC-HC-TC, etc.)
 SJDS 6 — LC58 — P3.00 — W2.80 — HC8-KC45

Alteration	Code	A	D R E G	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.)	<table border="1"> <tr><th>D</th><th>PCmin.</th></tr> <tr><td>4</td><td>0.900</td></tr> <tr><td>5</td><td>1.800</td></tr> <tr><td>6</td><td>1.800</td></tr> <tr><td>8</td><td>2.500</td></tr> <tr><td>10</td><td>2.800</td></tr> <tr><td>13</td><td>5.000</td></tr> <tr><td>16</td><td>8.000</td></tr> <tr><td>20</td><td>9.000</td></tr> <tr><td>25</td><td>9.000</td></tr> </table>	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	<table border="1"> <tr><th>D</th><th>PC·WCmin.</th></tr> <tr><td>5</td><td>1.80</td></tr> <tr><td>6</td><td>1.80</td></tr> <tr><td>8</td><td>2.50</td></tr> <tr><td>10</td><td>2.80</td></tr> <tr><td>13</td><td>5.00</td></tr> <tr><td>16</td><td>5.00</td></tr> <tr><td>20</td><td>5.00</td></tr> <tr><td>25</td><td>5.00</td></tr> </table>	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	Tip dimension change PC·WC ≥ PC·WCmin. 0.01 mm increments ⊗ Cannot be used for D4. ⊗ Cannot be used for tip X.	
	D	PCmin.																																										
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BC	Tip length change (shorter than standard) 2 ≤ BC < B 0.1 mm increments The following restriction applies to SJAX, A-SJAX with D dimension 5 or 6.	<table border="1"> <tr><th>PC</th><th>Bmax.</th></tr> <tr><td>1.80~1.99</td><td>20</td></tr> </table>	PC	Bmax.	1.80~1.99	20																																						
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PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1 mm increments ⊗ PRC ≤ (P-d, -0.5)/2 d, dimension P.236 ⊗ Cannot be combined with PCC.																																											
PCC	Chamfering of tip side edge 0.3 ≤ PCC ≤ 1 0.1 mm increments ⊗ PCC ≤ (P-d, -0.5)/2 d, dimension P.236 ⊗ Cannot be combined with PRC.																																											
PKC	Tip tolerance change P+0.01 → +0.005 0 → 0 ⊗ (P dimension can be selected in 0.001 mm increments.)	Tip tolerance change P·W+0.01 → +0.01 0 → 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.	Full length tolerance change TKC: T+0.3 → +0.02 LC: L+0.3 → +0.1 Full length tolerance change TKM: T+0.3 → +0.02 LC: L+0.3 → +0.1																																									
	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.	Full length tolerance change TKM: T+0.3 → +0.02 LC: L+0.3 → +0.1 Full length tolerance change LKC: L+0.3 → +0.05 LCZ: L+0.3 → +0.01																																									
	LKC	Full length tolerance change L+0.3 → +0.05 0 → 0																																										
	LKZ	Full length tolerance change L+0.3 → +0.01 0 → 0																																										

Alteration	Code	A	D R E G	1Code
	KC	Addition of single key flat to head		Key flat 90°/180° position change 1° increments
	WKC	Addition of double key flats in parallel		Double key flats in parallel Can be combined with KC.
	KFC	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC-WKC.		Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC-WKC.
	NKC	No key flat		
Alterations to head	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, 0.01 mm 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 → +0.02 0 → 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.1611 0.5 ≤ TCC ≤ (H-D)/2 ⊗ If H ≤ 5, then TCC is 0.5		
	RC	Head thickness is machined to a tolerance of -0.04 ~ 0 relative to the retainer surface. ⊗ Cannot be used for D _{+0.005} types.		
Alterations to shank	SKC	Single key flat on shank 	Single key flat on shank ⊗ D/2 - 0.5 ~ 0.01, D4~6 P ≤ D - 1.2 W ≤ D - 1.2 (Machining width 0.5) ⊗ D8~ P ≤ D - 2.2 W ≤ D - 2.2 (Machining width 1) ⊗ Cannot be combined with KC-WKC-KFC.	
	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		