

BURRING PUNCHES

— TAPERED TIP TYPE · DLC COATING —



RoHS ■ Jector type

● Calculating the projection length of the jector pin (reference value) **P.241**
 ● For details of jector holes, refer to Jector Punch Blanks. **P.236**
 (Blanks are based on PJB.)
 ● For details of jector pins, refer to Jector Pin Sets. **P.239**

Catalog No.				M	S	H
D _{m5}		D ₀ ^{+0.005}				
Short tip	Long tip	Short tip	Long tip	Equivalent to SKH51	DLC coating	61~64HRC Over surface 3000HV
N-SHMT	N-SHMTL	AN-SHMT	AN-SHMTL			
NW-SHMT	NW-SHMTL	ANW-SHMT	ANW-SHMTL			
N-PHMT	N-PHMTL	AN-PHMT	AN-PHMTL			

● For shank diameter tolerance D \square , select either (m5) or ($^{+0.005}$).

RoHS

Catalog No.				M	S	H
D _{m5}		D ₀ ^{+0.005}				
Short tip	Long tip	Short tip	Long tip	Powdered high-speed steel	DLC coating	64~67HRC Over surface 3000HV
N-PJMT	—	AN-PJMT	—			
NW-PJMT	—	ANW-PJMT	—			
—	—	—	—			

● For shank diameter tolerance D \square , select either (m5) or ($^{+0.005}$).

B	H	Catalog No.		L	0.01mm increments		0.1mm increments	1 ^o increments
		Type	D		min. V	max. P		
8	7	—Short tip— (D _{m5}) (D ₀ ^{+0.005})	4	40.0 ~ 80.0 (0.1mm increments)	1.60 ~ 3.99	1.00	F ≤ L - 2	0° < K < 90°
	8	—DLC coating—	5		1.80 ~ 4.99	1.20		
	9	N-SHMT AN-SHMT N-PHMT AN-PHMT	6		1.80 ~ 5.99	1.20		
	11	—Foundation WPC®— NW-SHMT ANW-SHMT	8		2.10 ~ 7.99	1.50		
	13	NW-PHMT ANW-PHMT	10		3.00 ~ 9.99	2.50		
15	7	—Long tip— (D _{m5}) (D ₀ ^{+0.005})	4	50.0 ~ 80.0 (0.1mm increments)	1.60 ~ 3.99	1.00	F ≤ L - 2	0° < K < 90°
	8	—DLC coating—	5		1.80 ~ 4.99	1.20		
	9	N-SHMTL AN-SHMTL N-PHMTL AN-PHMTL	6		1.80 ~ 5.99	1.20		
	11	—Foundation WPC®— NW-SHMTL ANW-SHMTL	8		2.10 ~ 7.99	1.50		
	13	NW-PHMTL ANW-PHMTL	10		3.00 ~ 9.99	2.50		
8	7	—Short tip jector— (D _{m5}) (D ₀ ^{+0.005})	4	40 50 60 70 80	2.00 ~ 3.99	1.00	F ≤ L - 2	0° < K < 90°
	8	—DLC coating—	5		2.00 ~ 4.99	2.00		
	9	N-PJMT AN-PJMT	6		2.00 ~ 5.99	2.00		
	11	—Foundation WPC®—	8		3.00 ~ 7.99	3.00		
	13	NW-PJMT ANW-PJMT	10		3.00 ~ 9.99	3.00		

● V-P ≥ 0.3 ● B ≥ (L-F) + i(V-P)/2tanK + 2

Order **Catalog No.** — L — V — P — F — K
 N-SHMT 4 — 41.0 — V2.60 — P1.00 — F39.0 — K30

Days to Ship **Quotation**

Alterations **Catalog No.** — L — V — P — F — K — (BC-HC-TC...etc.)
 N-SHMT 4 — 41.0 — V1.60 — P1.00 — F38.5 — K30 — BC10

Alterations	Code	Spec.	1Code												
Alterations to tip	BC	B dimension change 0.1mm increments Full length must be 30 mm longer than tip length. (L-F) + α + 2 ≤ BC ≤ BCmax ≤ L/2 $\alpha = \frac{(V-P) \cot K}{2}$ <table border="1" style="font-size: small;"> <tr><th>V</th><th>BCmax</th></tr> <tr><td>1.60~1.99</td><td>20</td></tr> <tr><td>2.00~2.99</td><td>30</td></tr> <tr><td>3.00~3.99</td><td>35</td></tr> <tr><td>4.00~4.99</td><td>45</td></tr> <tr><td>5.00~</td><td>60</td></tr> </table> ● Cannot be used for jector punches.	V	BCmax	1.60~1.99	20	2.00~2.99	30	3.00~3.99	35	4.00~4.99	45	5.00~	60	
	V	BCmax													
1.60~1.99	20														
2.00~2.99	30														
3.00~3.99	35														
4.00~4.99	45														
5.00~	60														
Alterations to head	HC	Head diameter change D ≤ HC < H 0.1mm increments	Quotation												
	TC	Head thickness change 0.1mm increments ● Other than jector 2 ≤ TC < 5 ● The full length L remains as specified. ● Jector 3.5 ≤ TC < 5 ● Full length L is shortened by (5-TC). (If combined with TKC-TKM, 0.01mm increments can be selected.)													
	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.1 mm increments 0.5 ≤ TCC ≤ (H-D)/2 ● If H ≤ 5, then TCC is 0.5.													
	TKC	Head thickness tolerance change T +0.3 / 0 ⇨ +0.02 / 0													
	TKM	Head thickness tolerance change T +0.3 / 0 ⇨ 0 / -0.02													

Alterations	Code	Spec.	1Code
Alterations to head	KC	Addition of single key flat to head	
	WKC	Addition of double key flats in parallel	
	RC	Head thickness is machined to a tolerance of -0.04~0 relative to the retainer surface. ● Can be used for D10 only. ● Cannot be used for D ₀ ^{+0.005} types.	
Others	LKC	Full length tolerance change L +0.3 / 0 ⇨ +0.05 / 0	Quotation
	FKC	Full length tolerance change F +0.3 / 0 ⇨ +0.05 / 0	
	AC	The jector pin is removed to create an air path and the side vent hole is plugged from the inside. ● Can be used for jector types only.	
	NC	The jector pin is removed. ● Cannot be combined with AC. ● Can be used for jector types only.	
	KKC	K angle tolerance change K ± 30' ⇨ ± 10'	
	NDC	No press-in lead ℓ ≥ 3 ⇨ ℓ = 0	

P Price **Quotation**

Effects of DLC coating
 Effective for preventing adhesion during aluminum or copper blanking thanks to its low affinity for nonferrous metal. See the product data for details. **P.1609**

PUNCHES & DIES FOR FORMING