

# BURRING PUNCHES

## — HALF-MADE TIP R TYPE —

PRODUCTS DATA  
P.1604-1605

RoHS

RoHS

V-P ≥ 0.3

Catalog No.				M	S	H
D <sub>m5</sub>		D <sup>+0.005</sup> <sub>0</sub>				
Short tip	Long tip	Short tip	Long tip	Equivalent to SKD11	—	60~63HRC
SPMS	SPMSL	A-SPMS	A-SPMSL	—	—	61~64HRC
SHMS	SHMSL	A-SHMS	A-SHMSL	Equivalent to SKH51	TiCN coating 61~64HRC Surface 3000HV	61~64HRC
H-SHMS	H-SHMSL	AH-SHMS	AH-SHMSL	—	HW coating 61~64HRC Surface 3000HV	61~64HRC
PHMS	PHMSL	A-PHMS	A-PHMSL	—	—	64~67HRC
H-PHMS	H-PHMSL	AH-PHMS	AH-PHMSL	Powdered high-speed steel	TiCN coating 64~67HRC Surface 3000HV	64~67HRC
HW-PHMS	HW-PHMSL	AHW-PHMS	AHW-PHMSL	—	HW coating 64~67HRC Surface 3000HV	64~67HRC

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

V-P ≥ 0.3

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 SJB.)
- For details of jector pins, refer to Jector Pin Sets. **P.239**

Catalog No.				M	S	H
D <sub>m5</sub>		D <sup>+0.005</sup> <sub>0</sub>				
Short tip	Long tip	Short tip	Long tip	D4~6 Equivalent to SKH51 D8~10 Equivalent to SKD11	—	D4~6 61~64HRC 58~10 60~63HRC
SJMS	—	A-SJMS	—	—	—	64~67HRC
PJMS	—	A-PJMS	—	—	—	64~67HRC
H-PJMS	—	AH-PJMS	—	Powdered high-speed steel	TiCN coating 64~67HRC Surface 3000HV	64~67HRC
HW-PJMS	—	AHW-PJMS	—	—	HW coating 64~67HRC Surface 3000HV	64~67HRC

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

B	H	Catalog No.		D	L	0.01mm increments		0.1mm increments
		Type	D			min. V max.	P min.	
8	7	— Short tip —		4	40.0~80.0 (0.1mm increments)	1.60~3.99	1.00	F ≤ L-2
	8	(D <sub>m5</sub> )	(D <sup>+0.005</sup> <sub>0</sub> )	5		1.80~4.99	1.20	
	9	SPMS	A-SPMS	6		1.80~5.99	1.20	
	11	SHMS	A-SHMS	8		2.10~7.99	1.50	
	13	H-SHMS	AH-SHMS	10		3.00~9.99	2.50	
	15	PHMS	A-PHMS	—		—	—	
15	7	— Long tip —		4	50.0~80.0 (0.1mm increments)	1.60~3.99	1.00	F ≤ L-2
	8	(D <sub>m5</sub> )	(D <sup>+0.005</sup> <sub>0</sub> )	5		1.80~4.99	1.20	
	9	SPMSL	A-SPMSL	6		1.80~5.99	1.20	
	11	SHMSL	A-SHMSL	8		2.10~7.99	1.50	
	13	H-SHMSL	AH-SHMSL	10		3.00~9.99	2.50	
	15	PHMSL	A-PHMSL	—		—	—	
8	7	— Short tip jector —		4	40 50 60 70 80	2.00~3.99	1.00	F ≤ L-2
	8	(D <sub>m5</sub> )	(D <sup>+0.005</sup> <sub>0</sub> )	5		2.00~4.99	2.00	
	9	SJMS	A-SJMS	6		2.00~5.99	2.00	
	11	PJMS	A-PJMS	8		3.00~7.99	3.00	
	13	H-PJMS	AH-PJMS	10		3.00~9.99	3.00	
	15	PHMSL	A-PHMSL	—		—	—	

V-P ≥ 0.3    B ≥ (L-F) + √{(V-P){(V-P)-(V-P)/4}} + 2

Order **Catalog No.** — **L** — **V** — **P** — **F**  
SHMS 4 — 41.0 — V2.60 — P1.00 — F39.0

Days to Ship **Quotation**

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

Alteration	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. α varies depending on the shape. $\alpha = \sqrt{(V-P) \{ (V-P) - (V-P)/4 \}}$  Cannot be used for jector punches. For coating punches, (L-F) + α + 2 ≤ BC ≤ BCmax ≤ L/2	Quotation
	VK	V dimension tolerance change V <sup>+0.01</sup> <sub>0</sub> ⇔ +0.005 Cannot be used for coating punches.	
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. <b>P.1611</b> 0.1 mm increments 0.5 ≤ TCC ≤ (H-D)/2 If H ≤ 5, then TCC is 0.5. Cannot be combined with SRC.	

**P** Price **Quotation**

Alteration	Code	Spec.	1Code
Alterations to head	TKC	Head thickness tolerance change +0.3 0 ⇔ +0.02	Quotation
	TKM	Head thickness tolerance change +0.3 0 ⇔ -0.02	
	KC	Addition of single key flat to head	
	WKC	Addition of double key flats in parallel	
Others	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 <sup>+0.005</sup> types.	Quotation
	LKC	Full length tolerance change L <sup>+0.3</sup> <sub>0</sub> ⇔ +0.05	
	FKC	Full length tolerance change F <sup>+0.3</sup> <sub>0</sub> ⇔ +0.05	
	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.	
NDC	No press-in lead ℓ ≥ 3 ⇔ ℓ = 0		

PUNCHES & DIES FOR FORMING