

# BLOCK PUNCHES

—TiCN COATING—



—TiCN coating—

**RoHS**

**TiCN**  
3000HV  
Although the effective range of the coating is part B, an extremely thin coating film is formed also on the shank up to a length of approximately 10mm.

**Tip machining limit**

Tip shape **D** **R** **E** **G**

W ≤ P ≤ W × 20  
R = 0 can be selected.  
0.15 ≤ R < W/2  
0.01mm increments

W ≤ P ≤ W × 20  
W < P ≤ W × 20

Even when P = V and W = H, the tip tolerance is determined by the P and W tolerances.

The tip end is ground before the coating is applied.

**Normal V · H = 3 ~ 30**

Tip shape **D** **R** **E** **G**

Equivalent to SKH51 61 ~ 64HRC  
Powdered high-speed steel 64 ~ 67HRC

**Tapped V · H = 5 ~ 30**

Tip shape **D** **R** **E** **G**

Equivalent to SKH51 61 ~ 64HRC  
Powdered high-speed steel 64 ~ 67HRC

**With key groove V · H = 3 ~ 30**

Details of key groove R ≤ 0.3

Equivalent to SKH51 61 ~ 64HRC  
Powdered high-speed steel 64 ~ 67HRC

**Single flange V · H = 3 ~ 30**

Details of flange R ≤ 0.3

Equivalent to SKH51 61 ~ 64HRC  
Powdered high-speed steel 64 ~ 67HRC

**Double flanges V · H = 3 ~ 30**

Details of flange R ≤ 0.3

Equivalent to SKH51 61 ~ 64HRC  
Powdered high-speed steel 64 ~ 67HRC

**Key groove position change**  
Flange position change

With key groove **K0** **K90** **K180** **K270**

Single flange **F0** **F90** **F180** **F270**

Double flanges **WFO** **WF90**

Catalog No.	Type	Tip shape	Tip length	H	W	V	V												L	0.1mm	B	M	U	
							3	4	5	6	8	10	13	16	20	22	25	28						30
Normal	H-HSP H-PHP	D	S	(3)	1.0	1.5	1.5	2.0	2.5	3.0	3.0	4.0	5.0	7.0	8.0	9.0	10.0	12.0	12.0	(40)	6	8	—	1.0
				(4)	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Tapped	H-HSM H-PHM	D	S	5	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(50)	8	13	3	1.0
				6	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
With key groove	H-HSK H-PHK	D	S	8	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	13	19	4	1.0
				10	2.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
Single flange	H-HSF H-PHF	D	L	13	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	19	5	1.0	
				16	4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—					—
Double flanges	H-HSW H-PHW	D	L	20	5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80	25	6	1.0	
				22	6.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—					—
				25	6.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90				
				28	7.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—					
				30	7.5	—	—	—	—	—	—	—	—	—	—	—	—	—	100					

⊙ L (40) · H10 ~ 30 → B = 13  
⊙ L (50) · H16 ~ 30 → B = 19  
⊙ H (3) (4) → L40 ~ 70

If full length is (40) and H dimension is 10 ~ 30, tip length is 13mm in all cases. (For tapped types, the tip length is 10mm in all cases.)  
If full length is (50) and H dimension is 16 ~ 30, tip length is 19mm in all cases.  
If H dimension is (3) or (4), full length L is within a range of 40 ~ 70.

**Order**

(1) If tip is at center of shank

Catalog No. V H L — 0.01mm increments — 0.1mm increments — K · F · WF

P — W — R (R only) — T ≥ 2

H-HSPDS 08 08 — 60 — P 6.00 — W 4.00  
H-HSMRL 20 10 — 70 — P16.00 — W 9.00 — R0.20  
H-PHKES 10 06 — 60 — P 8.00 — W 5.00 — T25.5 — K0  
H-HSFDL 16 13 — 60 — P15.00 — W12.00 — F90  
H-HSWEL 13 10 — 40 — P 8.00 — W 5.00 — WF90

(2) If tip is not at center of shank (X and Y must be set either to 0 or to 0.02 or more. Tolerance ± 0.01 if X and Y are 0, an additional coating layer of 3 ~ 5 μ is added.)

Catalog No. V H L — 0.01mm increments — 0.1mm increments — K · F · WF — 0.01mm increments

H-HSFDL 16 13 — 50 — P15.00 — W12.00 — F90 — X0.00 — Y0.55

**Days to Ship** **Quotation**

**Alterations** Catalog No. V H L(LC) — P(PC) · W(WC) · R — T ≥ 2 — K · F · WF — X — Y — (BC · HC · TC, etc.)

H-HSKDS 20 08 — 60 — P18.00 — W1.50 — T25.5 — K0 — LKC

Alteration	Code	Spec.	1Code
Alterations to tip	PC	Tip dimension change PC ≥ V × 0.3 ≥ 1.00 WC ≥ H × 0.15 ≥ 0.50 0.01mm increments	W (WC) Bmax 0.50 ~ 0.99 4 1.00 ~ 1.19 8 1.20 ~ 1.99 13 2.00 ~ 2.99 20 3.00 ~ 4.99 30 5.00 ~ 35
	WC	Tip length change 2 ≤ BC ≤ Bmax 0.1mm increments Full length (L) must be at least 30mm longer than tip length (BC)	
Alterations to full length	LC	Full length change 30 + B (BC) ≤ LC < L 0.1mm increments (If combined with LKC, 0.01mm increments can be selected.) If difference between full length (LC) and tip length (B) is 30mm or less, tip length is adjusted to (Full length - 30).	
	LKC	Full length tolerance change L +0.2 / -0.05	
Tap	MC	Tap diameter change V 6 8 10 13 16 20 22 6 M4 → M3 8 M5 → M4 10 M6 → M5 13 M8 → M6	
Key groove	TKC	Key groove position tolerance change T 0 -0.05 / -0.02	
	RTC	Key groove position tolerance change T 0 -0.05 / 0	
Key groove	WK	Addition of key groove at symmetrically opposite position KO - 180 K90 + 270 V - (2 × U (UK)) ≥ 2.0 (K0, K180) H - (2 × U (UK)) ≥ 2.0 (K90, K270) An additional key groove is added at a position symmetrically opposite to the specified key groove. Can be used for key groove types. Can be combined with UK.	
	UK	Key groove depth change 0.5 ≤ UK ≤ U + 0.2 0.1mm increments H (V) - UK ≥ 2.0 Can be used for key groove types. Can be combined with WK.	

Alteration	Code	Spec.	1Code
Flange	HC	Flange width change 0 ≤ HC < 1.5 0.1mm increments	
	TC	Flange thickness change 2 ≤ TC < 5 0.1mm increments (If combined with TKC, 0.01mm increments can be selected.) Full length L is shortened by (5 - TC). If combined with LC, full length is equal to LC.	
	TKC	Flange thickness tolerance change T +0.2 / -0.02	
	TKM	Flange thickness tolerance change T +0.2 / -0.02	
Alterations to shape	FK	Relief chamfering to flange top edge Flange edge is chamfered to prevent flange breakage.	
	CC	Chamfering to four corners of shank The four corners of shank are chamfered to C0.5. The distance between shank corners and the tip must be 0.5mm or more.	
Alterations to shape	CCP	Chamfering to one corner of shank (for error prevention) One corner of shank is chamfered to C1.0. Can be used if distances a and b from tip corners to shank meet the following conditions. a + b ≥ 1.3	
	VKC	Shank tolerance change V · H +0.01 / -0.005	
	VKM	Shank tolerance change V · H +0.01 / -0.005	
	VHM	Shank tolerance change V · H +0.01 / -0.01	
Alterations to shape	VHZ	Shank tolerance change V · H +0.01 / -0.005	
	DC	Addition of press-in lead Press-in lead of 3mm (V · H - 0.01 / -0.03) is added. Can be used for normal, tapped, and key groove types.	

BLOCK PUNCHES