

# CARBIDE BLOCK PUNCHES

		●Tip machining limit			RoHS
		Tip shape	Tip shape	Tip shape	
		D	R	E	
		P ≥ W	P ≥ W 0.15 ≤ R < W/2	P > W	
	Shank dimensions V·H	<b>Normal</b> <b>D ZPDBL</b> <b>R ZPRBL</b> <b>E ZPEBL</b>			
V30 (HIP) 88~89HRA	V·H 3~20				
	Shank dimensions V·H	<b>Tapped</b> <b>D ZPDML</b> <b>R ZPRML</b> <b>E ZPEML</b>			
V30 (HIP) 88~89HRA	V·H 8~20	<p>Although the tap hole has performed tap processing to steel inlaw until now, as soon as stock of a factory is lost, tap processing is directly given to the quality of super-hard material.</p>			
	Shank dimensions V·H	<b>With key groove</b> <b>D ZPDKL</b> <b>R ZPRKL</b> <b>E ZPEKL</b>			
V30 (HIP) 88~89HRA	V·H 3~20				
	Shank dimensions V·H	<b>Single flange</b> <b>D ZPDFL</b> <b>R ZPRFL</b> <b>E ZPEFL</b>			
V30 (HIP) 88~89HRA	V·H 3~16				
	Shank dimensions V·H	<b>Double flanges</b> <b>D ZPDWL</b> <b>R ZPRWL</b> <b>E ZPEWL</b>			
V30 (HIP) 88~89HRA	V·H 3~16				

Type	Tip shape	Type	Shank / tip dimensions (mm)																L	T	B			M	(a)	U		
			3	4	5	6	8	10	13	16	20	40	50	60-70														
ZP	D	BL	1.5	2.0	2.5	3.0	3.0	4.0	5.0	7.0	8.0	40	T ≥ 2.0	13	13	13	—	—	1.0									
		KL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0									1.0	1.0	1.0	1.0	1.0	1.0	1.0		
		FL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0									1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		WL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0									2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		BL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0									2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		KL	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5									2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	R	BL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	50	T ≥ 2.0	19	19	19	4	12	1.5								
		KL	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5									2.5	2.5	2.5	2.5	2.5	2.5	2.5	
		FL	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0									3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		WL	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0									4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		BL	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0									4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		KL	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0									5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

**Order**

(1) If tip is at center of shank

Catalog No.	V	H	L	0.01mm increments	0.1mm increments	0.1mm increments	K·F·WF
ZPEML	20	10	70	P16.00	W 9.00	T ≥ 2.5	K0
ZPEKL	10	06	60	P 8.00	W 5.00		F90
ZPEFL	16	13	60	P15.00	W12.00		WF90
ZPEWL	13	10	40	P 8.00	W 5.00		
ZPRBL	10	10	60	P 5.00	W 4.00		R0.15

(2) If tip is not at center of shank

Catalog No.	V	H	L	0.01mm increments	0.1mm increments	0.1mm increments	0.01mm increments
ZPEFL	16	13	50	P15.00	W12.00	T	X-Y

(X and Y must be set either to 0 or to 0.02 or more. Tolerance ±0.01)

**Key groove position and flange position change (KEY POSITION Rs0)**

With key groove	K0	K90	K180	K270	Single flange	F0	F90	F180	F270	Double flanges	WFO	WF90

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

**Alterations**

Catalog No.	V	H	L(LC)	P(PC)·W(WC)·R	T	K·F·WF	(BC·HC·TC, etc.)
ZPEBL	20	08	60	P18.00	W C1.50		VKC

Alteration	Code	Spec.	1Code
Alterations to tip	PC	Tip dimension change PC ≥ V × 0.3 ≥ 1.00 0.50~0.99 8 WC ≥ H × 0.15 ≥ 0.50 0.01mm increments 1.00~1.99 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)).	
	BC	Tip tolerance change P·W ± 0.01 → ± 0.005	
	PKC	Tip tolerance change P·W ± 0.01 → ± 0.005	
Full length	LC	Full length change 30 + B(BC) ≤ LC < L 0.1mm increments (if combined with LKC·LKZ, 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 ± 0.3 → ± 0.05	
	LKZ	Full length tolerance change L ± 0.3 → ± 0.01	
Alterations to 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·TKM, 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	
	FK	Relief chamfering to flange top edge Flange edge is chamfered to prevent flange breakage. Cannot be used for normal, tapped, and key groove types.	
Tap	MC	Tap diameter change H V 8 10 13 16 20 M4 → M3 M6 → M5 M8 → M6 M8 → M6 M8 → M6	

Alteration	Code	Spec.	1Code
Key groove	RTC	Key groove position tolerance change T 0 → ± 0.05 Can be used for key groove types.	
	WK	Addition of key groove at symmetrical opposite position H - (2 × U(UK) ≥ 2.0 (K0, K180)) V - (2 × U(UK) ≥ 2.0 (K90, K270)) An additional key groove is added at a position symmetrical opposite to the specified key groove. Can be combined with UK. Can be used for key groove types.	
	UK	Key groove depth change 0.5 ≤ UK ≤ U + 0.2 H(V) - UK ≥ 2.0 Can be combined with WK. Can be used for key groove types.	
Others	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.	
	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 Tip corner Tip corner Selection of chamfering position CCP0 CCP90 CCP180 CCP270 Can be used for normal and tapped types only.	
	VKC	Shank tolerance change V·H + 0.005 → ± 0.003	
	VKM	Shank tolerance change V·H + 0.005 → ± 0.003	
Tap	VHM	Shank tolerance change V·H + 0.005 → ± 0.005	
	DC	Addition of press-in lead 3mm (V·H - 0.01 → -0.03) Cannot be used for flanged types.	