

CARBIDE PUNCHES WITH KEY GROOVES AND AIR HOLES

—TiCN COATING—



Type	Shank diameter D Tolerance	M H	Catalog No.		The tip shape can be selected from tip shapes A ~ G in the figure below.
			Type	Tip length	
—TiCN coating— RoHS	Dm5	V30 (HIP) 88 ~ 89HRA Surface 3000HV	H—WJK	S	<p>The tip end is ground before the coating is applied.</p>
			H—WXJK (D4 ~ 6)		
	D ^{+0.005} ₀	V30 (HIP) 88 ~ 89HRA Surface 3000HV	AH—WJK	L	
			AH—WXJK (D4 ~ 6)		

Tip shape	Tip shape	Tip shape	Tip shape	Tip shape
A	D	R	E	G
$P \geq W$	$P \geq W$ $K = \sqrt{P^2 + W^2}$	$P \geq W$ $0.15 \leq R < \frac{W}{2}$ $K = \sqrt{(P-2R)^2 + (W-2R)^2} + 2R$	$P > W$	$P > W$

Type	Tip shape	Tip length	D	L	0.01mm increments			R	T	B	d1	S	d2	U Key groove depth		
					A										DREG	
					min.	P	max.								P·Kmax.	P·Wmin.
H—WJK (Dm5)	S	4	40	50	60	1.50 ~ 3.99	3.97	1.50	T ≥ 5.0	8	0.5	1.2	0.5			
		5	40	50	60	2.00 ~ 4.99	4.97	2.00		8	0.8	20	2.1			
		6	40	50	60	2.00 ~ 5.99	5.97	2.00		13	1.6	27	3.4			
		8	(40)	50	60	3.00 ~ 7.99	7.97	3.00		13	1.9	28	4.4			
		10	(40)	50	60	3.00 ~ 9.99	9.97	3.00		19	2.9	36				
		13	(40)	50	60	6.00 ~ 12.99	12.97	6.00		19	2.9	36				
AH—WJK (D ^{+0.005})	L	4	50	60	1.50 ~ 3.99	3.97	2.00	T ≥ 5.0	8	0.5	1.2	0.5				
		5	50	60	2.00 ~ 4.99	4.97	2.00		8	0.8	20	2.1				
		6	50	60	2.00 ~ 5.99	5.97	2.00		13	1.6	27	3.4				
		8	50	60	3.00 ~ 7.99	7.97	3.00		13	1.9	28	4.4				
		10	50	60	3.00 ~ 9.99	9.97	3.00		19	2.9	36					
		13	50	60	6.00 ~ 12.99	12.97	6.00		19	2.9	36					

⚠ If used with PKC alteration, P dimension can be selected in 0.001mm increments.
 ⚠ If L is (40) or (50), tip length B and S dimension are as follows.

D	L	(40)	(50)
8 ~ 16	B=8 S=17	B=8 S=17	B=13 S=24

⚠ Air hole of super fine grain type is straight. S and d2 dimensions do not exist.

⚠ If no key groove is required, select T=L.

Order **Catalog No.** — L — P — W — R (R only) — T
 H—WJKEL16 — 70 — P12.00 — W6.00 — T20

⚠ If no key groove is required, select T=L.

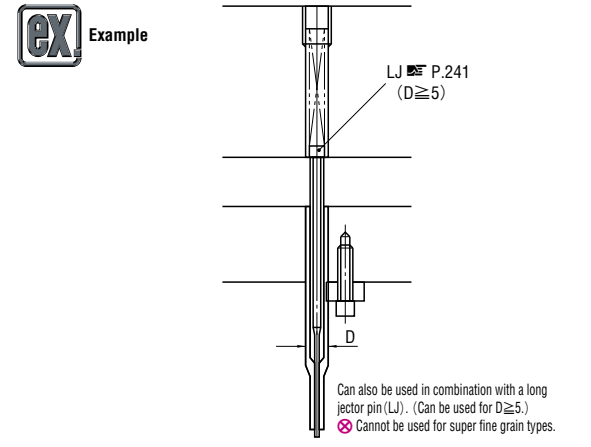
Days to Ship **Quotation**

Alterations **Catalog No.** — L (LC-LCX-LCT) — P (PC) — W (WC) — R — T — (BC-KC-LKC, etc.)
 H—WJKEL16 — LC65.5 — P12.00 — W6.00 — T20 — TKC

Alteration	Code	A	DREG	1Code
Alterations to tip	PC WC	Tip dimension change PC ≥ PCmin. 0.01mm increments (If combined with PKC, 0.001mm increments can be selected.) ⊗ Cannot be used for D4.	Tip dimension change PC ≥ PC·WCmin. 0.01mm increments ⊗ Cannot be used for D4.	
	BC	Tip length change 2 ≤ BC < B 0.1mm increments		
	SC	Tip roughness change ⊗ The base material is finished before the coating is applied.		
	PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1mm increments ⊗ PRC ≤ (P-d1-0.5)/2 ⊗ Cannot be combined with PCC.		
	PCC	Chamfering of tip side edge 0.3 ≤ PCC ≤ 1 0.1mm increments ⊗ PCC ≤ (P-d1-0.5)/2 ⊗ Cannot be combined with PRC.		
	PKC PKV	Tip tolerance change P +0.01 ⇔ ±0.005 ⊗ P dimension can be selected in 0.01mm increments. ⊗ Cannot be used for D16. Tip tolerance change P +0.01 ⇔ ±0.005 ⊗ P dimension increment remains the same.		
Alterations to full length	LC	Full length change LC < L 0.1mm increments (If combined with LKC, 0.01mm increments can be selected.) ⊗ B and S dimensions are shortened accordingly.		
	LCX	Full length change with the same tip length B 25+B (BC) ≤ LCX < L 0.1mm increments ⊗ If difference between full length and tip length is 25mm or less, tip length is adjusted to (Full length-25mm). (If combined with LKC, 0.01mm increments can be selected.)	Full length change with the same tip length B 30+B (BC) ≤ LCX < L 0.1mm increments ⊗ If difference between full length and tip length is 30mm or less, tip length is adjusted to (Full length-30mm).	

Price **Quotation**

Alteration	Code	A	DREG	1Code
Alterations to full length	LCT	T dimension tolerance and full length changes are processed using a single code. The allowable range of change, increment, ordering process, and notes (⊗) are the same as for LC. TKC T dimension tolerance change T +0.05 ⇔ -0.02	LC Full length tolerance change L +0.3 ⇔ +0.1	
	LKC	Full length tolerance change L +0.3 ⇔ +0.05		
Others	KC		Key flat 180° position change 1° increments	
	NKC		No key flat	
	KD		Key groove 180° position change 1° increments	
	WKD	⊗ Addition of double key grooves in parallel	⊗ Double key grooves in parallel. Can be combined with KD.	
	TKC	T dimension tolerance change T +0.05 ⇔ -0.02		
	UK	Key groove depth change ⊗ Can be used for super fine grain types only.		
SKC	Single key flat on shank ⊗ Cannot be combined with KC-KD-WKD.			



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