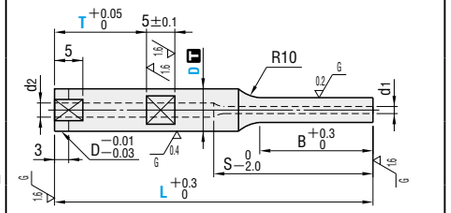
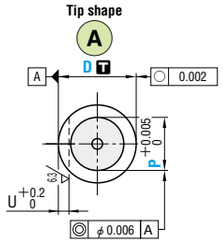
CARBIDE PUNCHES WITH KEY GROOVES AND AIR HOLES

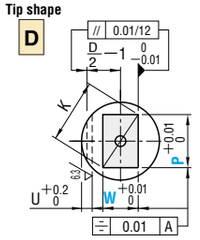
Type	Shank diameter D T tolerance	M H	Catalog No. Type	Tip shape	B Tip length
RoHS For shank diameter tolerance D T, select either m5 or $^{+0.005}_{0}$.	D_{m5}	V30 (HIP) 88 ～ 89HRA	WJK	A D R E G	S
		Super fine grain (HIP) 90 ～ 92HRA	WXJK (D4 ～ 6)		
	$D^{+0.005}_{0}$	V30 (HIP) 88 ～ 89HRA	A—WJK		
		Super fine grain (HIP) 90 ～ 92HRA	A—WXJK (D4 ～ 6)		
—Lapping— RoHS For shank diameter tolerance D T, select either m5 or $^{+0.005}_{0}$.	D_{m5}	V30 (HIP) 88 ～ 89HRA	L—WJK		L Tip length (B) L>S
		Super fine grain (HIP) 90 ～ 92HRA	L—WXJK (D4 ～ 6)		
	$D^{+0.005}_{0}$	V30 (HIP) 88 ～ 89HRA	AL—WJK		
		Super fine grain (HIP) 90 ～ 92HRA	AL—WXJK (D4 ～ 6)		



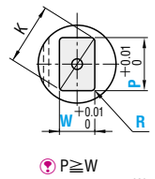
Tip shape A



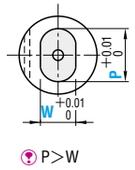
Tip shape D



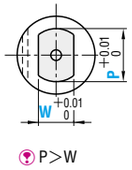
Tip shape R



Tip shape E



Tip shape G



P≧W
K=$\sqrt{P^2+W^2}$

P≧W
0.15≦R<$\frac{W}{2}$
K=$\sqrt{(P-2R)^2+(W-2R)^2}+2R$

P>W

P>W

Catalog No. Type	Tip shape	B Tip length	D	L	0.001mm increments Ⓐ min. P max.	0.01mm increments D R E G P·Kmax.	0.01mm increments D R E G P·Wmin.	R	0.1mm increments T	B	d_1	S	d_2	U Key groove depth
(D_{m5}) WJK	A D R E G	S	4	40 50 60	1.500 ～ 3.990	3.97	1.50	0.15≦R<$\frac{W}{2}$ (Ⓡ only)	T≧5.0	8	0.5	20	1.2	0.5
($D^{+0.005}_{0}$) A—WJK			5	40 50 60 70	2.000 ～ 4.990	4.97	2.00				0.8		2.1	
WXJK (D4 ～ 6)			6	40 50 60 70	2.000 ～ 5.990	5.97	2.00						2.6	1.0
A—WXJK (D4 ～ 6)			8	(40) 50 60 70 80	3.000 ～ 7.990	7.97	3.00			13	1.2	27	3.4	1.5
—Lapping— L—WJK			10	(40) 50 60 70 80	3.000 ～ 9.990	9.97	3.00				1.6	28	4.4	
AL—WJK			13	(40) 50 60 70 80	6.000 ～ 12.990	12.97	6.00				1.9			
L—WXJK (D4 ～ 6)			16	(40) (50) 60 70 80	10.000 ～ 15.990	15.97	6.00			19	2.9	36		
AL—WXJK (D4 ～ 6)		L	4	50 60	1.500 ～ 3.990	3.97	2.00			13	0.5	20	1.2	0.5
			5	50 60 70	2.000 ～ 4.990	4.97	2.00				0.8		2.1	
			6	50 60 70	2.000 ～ 5.990	5.97	2.00						2.6	1.0
			8	50 60 70 80	3.000 ～ 7.990	7.97	3.00			19	1.2	27	3.4	1.5
			10	50 60 70 80	3.000 ～ 9.990	9.97	3.00				1.6	28	4.4	
			13	50 60 70 80	6.000 ～ 12.990	12.97	6.00				1.9			
			16	60 70 80	10.000 ～ 15.990	15.97	6.00			25	2.9	36		

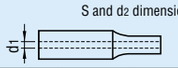
Ⓨ If L is (40) or (50), tip length B and S dimension are as follows.

D \ L	(40)
8 ～ 16	B=8 S=17

D \ L	(50)
16	B=13 S=24

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

Ⓨ Air hole of super fine grain type is straight. S and d_2 dimensions do not exist.



Order

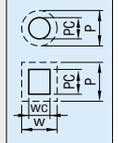
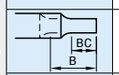
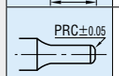
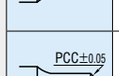
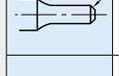
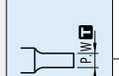
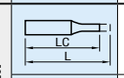
Catalog No.	L	P	W	R (Ⓡ) only	T
A—WJKEL16	70	P12.00	W6.00		T20

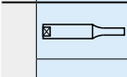
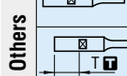
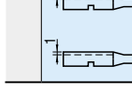
Ⓨ If no key groove is required, select T=L.

Days to Ship Quotation

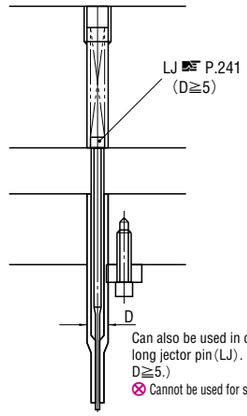
Alterations

Catalog No.	L (LC·LCX·LCT)	P (PC)	W (WC)	R	T	(BC·KC·KD, etc.)
A—WJKEL16	LC65.5	P12.00	W6.00		T20	PKC

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to tip		PC WC	Tip dimension change PC≧PCmin. 0.001mm increments	Tip dimension change PC·WC≧PC·WCmin. 0.001mm increments (If combined with PKC, 0.001mm increments can be selected.)	Quotation
			D / PCmin.: 5 1.800; 6 1.800; 8 2.300; 10 2.800; 13 5.000; 16 8.000	D / PC·WCmin.: 5 1.80; 6 1.80; 8 2.50; 10 2.80; 13 5.00; 16 5.00	
			Ⓧ Cannot be used for D4.	Ⓧ Cannot be used for D4.	
		BC	Tip length change 2≦BC<B 0.1mm increments		
		PRC	Rounding of tip side edge 0.3≦PRC≦1 0.1mm increments Ⓨ PRC≦(P−d_1−0.5)/2 Ⓧ Cannot be combined with PCC.	—	
		PCC	Chamfering to tip side edge 0.3≦PCC≦1 0.1mm increments Ⓨ PCC≦(P−d_1−0.5)/2 Ⓧ Cannot be combined with PRC.	—	
		PKC	Tip tolerance change P $^{+0.005}_{0}$ ⇨ $^{+0.003}_{0}$	Tip tolerance change (P·W dimensions can be selected in 0.001mm increments.) P·W $^{+0.01}_{0}$ ⇨ $^{+0.005}_{0}$	
		PKV	Tip tolerance change P $^{+0.005}_{0}$ ⇨ ±0.002 Ⓨ P dimension increment remains the same.	Tip tolerance change P·W $^{+0.01}_{0}$ ⇨ ±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·LKZ, 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).	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).	
			(If combined with LKC·LKZ, 0.01mm increments can be selected.)		
		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 $^{+0.05}_{0}$ ⇨ $^{0}_{-0.02}$ + LC Full length change + Full length tolerance change L $^{+0.3}_{0}$ ⇨ $^{+0.1}_{0}$		

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to full length		LKC	Full length tolerance change L $^{+0.3}_{0}$ ⇨ $^{+0.05}_{0}$		Quotation
		LKZ	Full length tolerance change L $^{+0.3}_{0}$ ⇨ $^{+0.01}_{0}$		
Others		KC	—	Key flat position 180° 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 $^{+0.05}_{0}$ ⇨ $^{0}_{-0.02}$		
		UK	Key groove depth change Ⓨ Can be used for super fine grain types only. D / UK: 4·5 0.7; 6 1.2; 8 ～ 16 1.7		
		SKC	Single key flat on shank Ⓐ D R E G ·D4～6 P≦D−1.2 W≦D−1.2 (Machining width 0.5) ·D8～ P≦D−2.2 W≦D−2.2 (Machining width 1) Ⓧ Cannot be combined with KC·KD·WKD.		

Example



Can also be used in combination with a long jector pin (LJ). (Can be used for D≧5.)
Ⓧ Cannot be used for super fine grain types.

Price Quotation