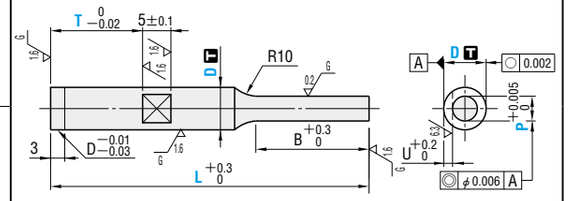
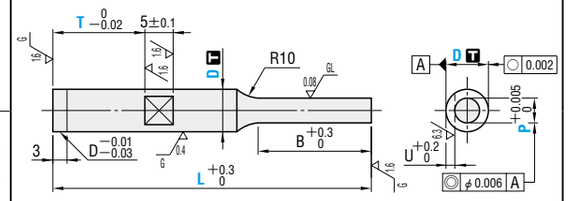
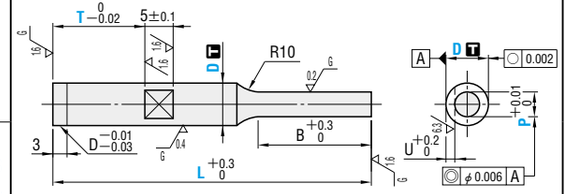
CARBIDE PUNCHES WITH KEY GROOVES
—MINUS D TOLERANCE—

PRODUCTS DATA P.1604

Type	Shank diameter D T tolerance	M H	Catalog No.	Shape
RoHS 	$D^{-0.001}_{-0.006}$	V30(HIP) 88 ～ 89HRA	B—WKAS B—WKAL	
		Super fine grain(HIP) 90 ～ 92HRA	B—WXKAS B—WXKAL (D3 ～ 6)	
—Lapping— RoHS 	$D^{-0.001}_{-0.006}$	V30(HIP) 88 ～ 89HRA	BL—WKAS BL—WKAL	
		Super fine grain(HIP) 90 ～ 92HRA	BL—WXKAS BL—WXKAL (D3 ～ 6)	
—TiCN coating— RoHS 	$D^{-0.001}_{-0.006}$	V30(HIP) 88 ～ 89HRA Surface 3000HV	BH—WKAS BH—WKAL	
		Super fine grain(HIP) 90 ～ 92HRA Surface 3000HV	BH—WXKAS BH—WXKAL (D3 ～ 6)	

Although the marks of processing may remain in the center of the flange end face, it is satisfactory on a function. Tip length(B)L>S

The tip end is ground before the coating is applied.
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Catalog No. Type	Tip shape	B Tip length	D	L	0.001mm increments Ⓐ min. P max.	0.1mm increments T	B	U Key groove depth
B—WK	Ⓐ	S	3	40 50 60	1.000 ～ 2.990	T≧5.0	8	0.5
B—WXK (D3 ～ 6)			4	40 50 60 70	1.000 ～ 3.990			
			5	40 50 60 70	2.000 ～ 4.990			1.0
—Lapping—			6	40 50 60 70	2.000 ～ 5.990			
BL—WK			8	(40) 50 60 70 80	3.000 ～ 7.990		13	1.5
BL—WXK (D3 ～ 6)			10	(40) 50 60 70 80	3.000 ～ 9.990			
			13	(40) 50 60 70 80	6.000 ～ 12.990			
—TiCN coating—			16	(40) 50 60 70 80	10.000 ～ 15.990		19	
BH—WK		L	3	50 60	1.000 ～ 2.990		13	0.5
BH—WXK (D3 ～ 6)			4	50 60 70	1.000 ～ 3.990			
			5	50 60 70	2.000 ～ 4.990			1.0
			6	50 60 70	2.000 ～ 5.990			
			8	50 60 70 80	3.000 ～ 7.990		19	1.5
			10	50 60 70 80	3.000 ～ 9.990			
			13	50 60 70 80	6.000 ～ 12.990			
			16	60 70 80	10.000 ～ 15.990		25	

With TiCN coating, P dimension can be selected in 0.01mm increments.(If used with PKC alteration, 0.001mm increments can be selected.)
If no key groove is required, select T=L.
L(40)⋯B=8 If full length is(40), tip length is 8mm in all cases.

Order Catalog No. — L — P — T

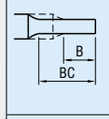
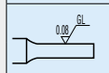
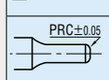
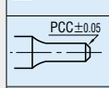
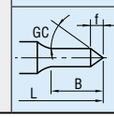
B—WKAS 8 — 70 — P6.500 — T20

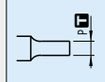
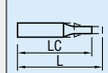
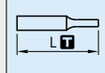
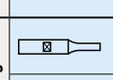
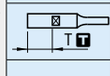
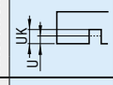
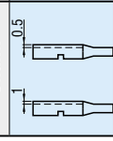
If no key groove is required, select T=L.

Days to Ship Quotation

Alterations Catalog No. — L(LC) — P(PC) — T — (BC・WKD, etc.)

B—WKAS 8 — LC65.5 — P6.500 — T20 — PKC

Alteration		Code	Spec.	1Code
Alterations to tip		PC	Tip dimension change PC≧Pmin./2 With coating PC≧Pmin./2≧1.00 0.001mm increments P(PC) Bmax.: 0.500～0.999 4; 1.000～1.999 13; 2.000～2.999 19; 3.000～3.999 30; 4.000～5.999 40; 6.000～ 45	Quotation
		BC	Tip length change 2≦BC≦Bmax. With coating 2≦BC≦Bmax.≦L/2 0.1mm increments Full length L must be at least 25mm longer than tip length BC.	
		SC	Tip roughness change 0.2S ⇨ 0.08GL Can be only used with coating. The base material is finished before the coating is applied.	
		PRC	Rounding of tip side edge 0.3≦PRC≦1 0.1 mm increments PRC≦(P−0.2)/2 ⊗ Cannot be combined with PCC・GC.	
		PCC	Chamfering to tip side edge 0.3≦PCC≦1 0.1mm increments PCC≦(P−0.2)/2 ⊗ Cannot be combined with PRC・GC.	
		GC	20°≦GC<90° 1° increments Tip length B≧f+2 f=P/2×tan(90°−GC°) If combined with lapping or SC, edges are rounded. ⊗ Cannot be used for P≦1.000. ⊗ Cannot be combined with LKC・LKZ・PRC・PCC.	

Alteration		Code	Spec.	1Code
Alterations to tip		PKC	Tip tolerance change Normal・lapping P +0.005 0 ⇨ +0.003 0 Coating P +0.01 0 ⇨ +0.005 0	Quotation
		PKV	Tip tolerance change P dimension increment remains the same. Normal・lapping P +0.005 0 ⇨ ±0.002 Coating P +0.01 0 ⇨ ±0.005	
Alterations to full length		LC	Full length change 25+B(BC)≦LC<L 0.1mm increments (If combined with LKC・LKZ, 0.01mm increments can be selected.) If difference between full length and tip length is 25mm or less, tip length is adjusted to(Full length−25mm).	
		LKC	Full length tolerance change L +0.3 0 ⇨ +0.05 0	
		LKZ	Full length tolerance change L +0.3 0 ⇨ +0.01 0 ⊗ Cannot be used with TiCN coating.	
Alterations to key groove		WKD	Addition of double key grooves in parallel	
		RTC	T dimension tolerance change T 0 −0.02 ⇨ +0.05 0	
		UK	Key groove depth change: D 4・5 UK 0.7; 6 1.2; 8～16 1.7 ⊗ Cannot be used for D3.	
Shank		SKC	Single key flat on shank Ⓐ ・D3～6 P≦D−1.2 (Machining width 0.5) ・D8～ P≦D−2.2 (Machining width 1) ⊗ Cannot be combined with WKD.	

Price Quotation

■Fixing keys for punches with key grooves P.245

PSKB PSKBH 
PSKS PSKJ 
PSK PSKP PSKH 
PSKW