

CARBIDE PILOT PUNCHES

— TiCN COATING —



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Type	Shank diameter D tolerance	Material	Catalog No.	Shape
— Tip R type — RoHS	Dm5	V30 (HIP) 88~89HRA Surface 3000HV	H—WSTAS H—WSTAL	<p>Tip length (B) L > S RT (※) → If P < 8, tip is rounded for safety. To keep the sharp tip (no rounding), specify RT=0. (However if P ≥ 8, tip end is flat. P.1592) Although the marks of processing may remain in the center of a flange end face, it is satisfactory on a function. For the length of tip R, refer to the products data "Punch R length". P.1592</p>
	D +0.005 / 0		AH—WSTAS AH—WSTAL	
— Tapered tip type — RoHS	Dm5	V30 (HIP) 88~89HRA Surface 3000HV	H—WTPAS H—WTPAL	<p>Tip length (B) L > S Although the marks of processing may remain in the center of a flange end face, it is satisfactory on a function.</p>
	D +0.005 / 0		AH—WTPAS AH—WTPAL	

Type	D	L				0.01mm increments		B	H	Y
		3	4	5	6	min.	max.			
 (Dm5) (D +0.005 / 0) H—WSTAS AH—WSTAS H—WTPAS AH—WTPAS	3	42	52	62		1.00 ~ 2.99	10	5	2	
	4	42	52	62	72	1.00 ~ 3.99		7		
	5	42	52	62	72	2.00 ~ 4.99		8	3	
	6	42	52	62	72	2.00 ~ 5.99		9		
	8	(42)	52	62	72	82	3.00 ~ 7.99	15	11	5
	10	(42)	52	62	72	82	3.00 ~ 9.99		13	
13	(42)	52	62	72	82	6.00 ~ 12.99	16		8	
16	(42)	52	62	72	82	10.00 ~ 15.99	21	19		
 (Dm5) (D +0.005 / 0) H—WSTAL AH—WSTAL H—WTPAL AH—WTPAL	3		52	62		1.00 ~ 2.99	15	5	2	
	4		52	62	72	1.00 ~ 3.99		7		
	5		52	62	72	2.00 ~ 4.99		8	3	
	6		52	62	72	2.00 ~ 5.99		9		
	8		52	62	72	82	3.00 ~ 7.99	21	11	5
	10		52	62	72	82	3.00 ~ 9.99		13	
13		52	62	72	82	6.00 ~ 12.99	16		8	
16		52	62	72	82	10.00 ~ 15.99	27	19		

L(42) → B=10 If full length is (42), tip length is 10mm in all cases.
 P > D - 0.03 → l = 0 If P > D - 0.03, D - 0.03 (press-in lead) is not included.
 If used with PKC alteration, P dimension can be selected in 0.001mm increments.

Order **Catalog No.** — **L** — **P** — (RT=0 / R=0)

H—WSTAS 5 — 42 — P2.50
 H—WSTAL 8 — 62 — P4.50 — R10
 AH—WTPAS 10 — 72 — P4.20 — R0

RT=0 only can be selected for tip R types with P < 8 (except lapping).
 R=0 only can be selected for tapered tip types (except lapping).

Days to Ship **Quotation**

Alterations **Catalog No.** — **L(LC·LCT·LMT)** — **P(PC)** — (RT=0) — (BC·HC·TC, etc.)
 H—WSTAL 6 — LC65.0 — P4.50 — R10 — TKC

Alteration	Code	1Code
Alterations to tip	RLC	Tip R is cut flat. Allowable range of change 2 ≤ RLC < √P (10-P/4) 0.1mm increments Can be used for P < 8.
	PC	Tip diameter change PC ≥ Pmin./2 ≥ 1.00 0.01mm increments (if combined with PKC, 0.001mm increments can be selected.) Cannot be used for D3-4.
	BC	Tip length change 2 ≤ BC ≤ Bmax. ≤ L/2 0.1mm increments Full length L must be at least 25mm longer than tip length BC.
	YC	Tip taper length change • If P < 2.0, 1 ≤ YC ≤ P × 2.83 - 0.3 • If P ≥ 2.0, 1 ≤ YC ≤ P × 1.86 - 0.3 ≤ 12 L(LC) + YC ≤ Lmax. + 8 0.1mm increments
	PKC	Tip diameter tolerance change P + 0.01 ⇔ + 0.005 increments. P dimension can be selected in 0.001mm increments. Cannot be used for D > 13.
	PKV	Tip diameter tolerance change P + 0.01 ⇔ ± 0.005 P dimension increment remains the same.
SC	Tip roughness change 0.2/G ⇔ 0.08/GL The base material is finished before the coating is applied. RT=0 and R=0 cannot be selected.	

Alteration	Code	1Code
Alterations to full length	LC	Full length change 25 + B(BC) ≤ LC < L 0.1mm increments If difference between full length and tip length is 25mm or less, tip length is adjusted to (Full length - 25mm).
	LCT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (※) are the same as for LC.
	LMT	Changes to head thickness tolerance and full length are processed using a single code. The allowable range of change, increment, ordering process, and notes (※) are the same as for LC.
Alterations to head	KC	Addition of single key flat to head
	WKC	Addition of double key flats in parallel
	HC	Head diameter change D ≤ HC < H 0.1mm increments
	TC	Head thickness change 2 ≤ TC < 5 0.1mm increments (if combined with TKC·TKM·LCT·LMT, 0.01mm increments can be selected.) Full length L is shortened by (5 - TC). If combined with LC·LCT·LMT, full length remains as specified.
Alterations to shank	TKC	Head thickness tolerance change T + 0.3 / 0 ⇔ + 0.02 / 0
	TKM	Head thickness tolerance change T + 0.3 / 0 ⇔ - 0.02 / 0
Shank	NDC	No press-in lead l = 3 ⇔ l = 0

P Price **Quotation**