CARBIDE SHOULDER PUNCHES WITH AIR HOLES

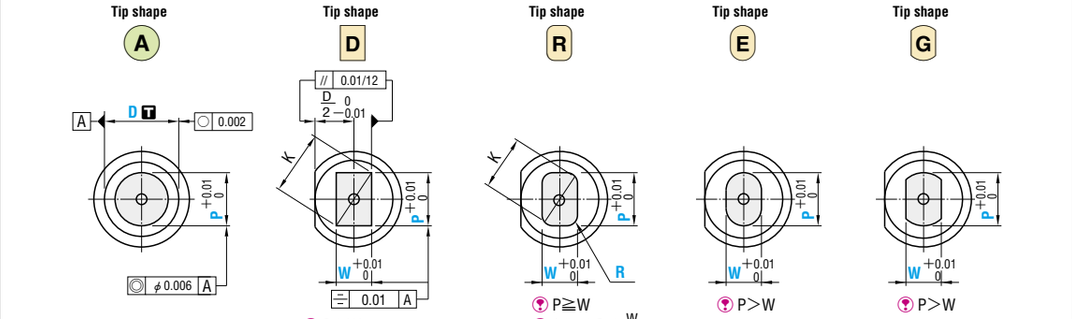
—TiCN COATING—

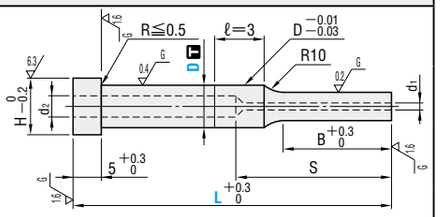
PRODUCTS DATA P.1604

Type	Shank diameter D T tolerance	M / H	Catalog No. Type	Tip shape	B Tip length
—TiCN coating— RoHS	D_{m5}	V30 (HIP) 88 ~ 89HRA Surface 3000HV	H—WJ	A D R E G	S
		Super fine grain (HIP) 90 ~ 92HRA Surface 3000HV	H—WXJ (D4 ~ 6)		L
	$D^{+0.005}_{0}$	V30 (HIP) 88 ~ 89HRA Surface 3000HV	AH—WJ		X
		Super fine grain (HIP) 90 ~ 92HRA Surface 3000HV	AH—WXJ (D4 ~ 6)		Tip length (B) X>L>S

For shank diameter tolerance D T, select either m5 or $^{+0.005}_{0}$.

The tip shape can be selected from tip shapes A ~ G in the figure below.





The tip end is ground before the coating is applied.

Type	Tip shape	B Tip length	D	L					0.01mm increments Ⓐ min. P max.	DREG P·Kmax.	DREG P·Wmin.	R R	B	d1	S	d2	H
(D_{m5}) H—WJ H—WXJ (D4 ~ 6) ($D^{+0.005}_{0}$) AH—WJ AH—WXJ (D4 ~ 6)	A D R E G	S	3	40	50	60	70		1.00 ~ 2.99	—	—	0.15≦R<W/2 (R only)	8	0.3	—	0.3	5
			4	40	50	60	70		1.50 ~ 3.99	3.97	1.50			0.5	20	1.2	7
			5	40	50	60	70		2.00 ~ 4.99	4.97	2.00			0.8		2.1	8
			6	40	50	60	70		2.00 ~ 5.99	5.97	2.00					2.6	9
			8	(40)	50	60	70	80	3.00 ~ 7.99	7.97	3.00		13	1.2	27	3.4	11
			10	(40)	50	60	70	80	3.00 ~ 9.99	9.97	3.00			1.6	28	4.4	13
			13	(40)	50	60	70	80	6.00 ~ 12.99	12.97	6.00			1.9			16
			16	(40)	(50)	60	70	80	10.00 ~ 15.99	15.97	6.00		19	2.9	36		19
		L	3	40	50	60	70		1.00 ~ 2.99	—	—		13	0.3	—	0.3	5
			4		50	60	70		1.50 ~ 3.99	3.97	2.00			0.5	20	1.2	7
			5		50	60	70		2.00 ~ 4.99	4.97	2.00			0.8		2.1	8
			6		50	60	70		2.00 ~ 5.99	5.97	2.00					2.6	9
			8		50	60	70	80	3.00 ~ 7.99	7.97	3.00		19	1.2	27	3.4	11
			10		50	60	70	80	3.00 ~ 9.99	9.97	3.00			1.6	28	4.4	13
			13		50	60	70	80	6.00 ~ 12.99	12.97	6.00			1.9			16
			16			60	70	80	10.00 ~ 15.99	15.97	6.00		25	2.9	36		19
(D_{m5}) H—WJ ($D^{+0.005}_{0}$) AH—WJ	A	X	4		50	60	70		2.00 ~ 3.99	—	—	—	19	0.5	26	1.2	7
			5		50	60	70		3.00 ~ 4.99				25	0.8	32	2.1	8
			6		50	60	70		3.00 ~ 5.99							2.6	9
			8			60	70	80	3.00 ~ 7.99				30	1.2	40	3.4	11
			10			60	70	80	3.00 ~ 9.99					1.6		4.4	13
			13			60	70	80	6.00 ~ 12.99					1.9			16
			16				70	80	10.00 ~ 15.99				40	2.9	50		19

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

L	(40)	(50)
B	8	13

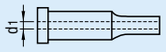
D \ L	(40)
8 ~ 16	S=17

D \ L	(50)
16	S=24

Ⓐ: P>D−0.03···ℓ=0 If P>D−0.03 for a round punch, $D^{-0.01}_{-0.03}$ (press-in lead) is not included.

DREG: P·K>D−0.05···ℓ=0 If P·K>D−0.05 for a shaped punch, $D^{-0.01}_{-0.03}$ (press-in lead) is not included.

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



Order Catalog No. — L — P — W — R (R only)

H—WJDS 10 — 60 — P8.00 — W3.00

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — L (LC·LCX·LCT·LMT) — P (PC) — W (WC) — R — (BC·HC·TC, etc.)

H—WJDS 10 — 60 — P8.00 — W3.00 — BC10

	Alteration	Code	Ⓐ	DREG	1Code
Alterations to tip	PC WC	PC WC	Tip dimension change PC≧PCmin. 0.01mm increments (If combined with PKC, 0.001mm increments can be selected.) ⊗ Cannot be used for D3·4. ⊗ Cannot be used for tip X. (D / PCmin.: 5 1.80, 6 1.80, 8 2.30, 10 2.80, 13 5.00, 16 8.00)	Tip dimension change PC·WC≧PC·WCmin. 0.01mm increments ⊗ Cannot be used for D4. (D / PC·WCmin.: 5 1.80, 6 1.80, 8 2.50, 10 2.80, 13 5.00, 16 5.00)	
		BC	Tip length change 2≦BC<B 0.1mm increments		
		SC	Tip roughness change 0.2 G ⇨ 0.08 GL 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.	—	Quotation
		PCC	Chamfering to tip side edge 0.3≦PCC≦1 0.1mm increments PCC≦(P−d1−0.5)/2 ⊗ Cannot be combined with PRC.	—	
		PKC	Tip tolerance change $P^{+0.01}_{0}$ ⇨ $^{+0.005}_{0}$ (P dimension can be selected in 0.001mm increments.) ⊗ Cannot be used for D16.	—	
		PKV	Tip tolerance change $P^{+0.01}_{0}$ ⇨ ±0.005 P dimension increment remains the same.	—	
Alterations to full length		LC	Full length change 25+B(BC)≦LC<L 0.1mm increments B and S dimensions are shortened by L−(LC). (If combined with LKC, 0.01 mm increments can be selected.)	Full length change 30+B(BC)≦LC<L 0.1mm increments B and S dimensions are shortened by L−(LC).	
		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.) ⊗ Cannot be used for V30.	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).	
		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. TKC (Head thickness tolerance change) $T^{+0.3}_{0}$ ⇨ $^{+0.02}_{0}$ + LC (Full length change) + Full length tolerance change $L^{+0.3}_{0}$ ⇨ $^{+0.1}_{0}$		
		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. TKM (Head thickness tolerance change) $T^{+0.3}_{0}$ ⇨ $^{0}_{-0.02}$ + LC (Full length change) + Full length tolerance change $L^{+0.3}_{0}$ ⇨ $^{+0.1}_{0}$		

	Alteration	Code	Ⓐ	DREG	1Code
Alterations to full length	L T	LKC	Full length tolerance change $L^{+0.3}_{0}$ ⇨ $^{+0.05}_{0}$		
Alterations to head		KC	Addition of single key flat to head ⊗ Cannot be combined with KFC.	Key flat position change 1° increments ⊗ Cannot be combined with KFC.	
		WKC	Addition of double key flats in parallel ⊗ Cannot be combined with KFC.	Double key flats in parallel Can be combined with KC. ⊗ Cannot be combined with KFC.	
		KFC	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC·WKC.	Double key flats at 0° and a selected angle 1° increments ⊗ Cannot be combined with KC·WKC.	
		NKC	—	No key flat	Quotation
	H HC	HC	Head diameter change D≦HC<H 0.1mm increments		
	TC T	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.		
	T T	TKC	Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{+0.02}_{0}$		
		TKM	Head thickness tolerance change $T^{+0.3}_{0}$ ⇨ $^{0}_{-0.02}$		
	TCC	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.1mm increments 0.5≦TCC≦(H−D)/2 If H ≦ 5, then TCC is 0.5.		
Shank	ℓ $D^{-0.01}_{-0.03}$	NDC	No press-in lead ℓ=3 ⇨ℓ =0		

CARBIDE PUNCHES