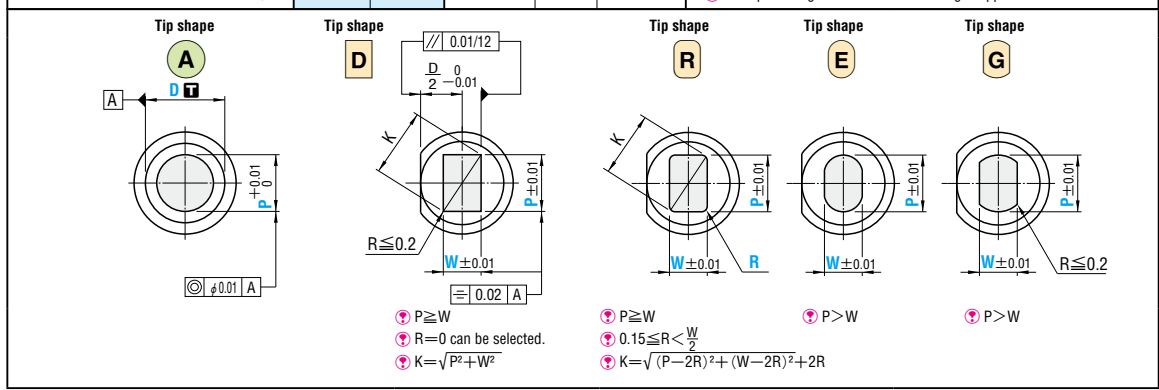
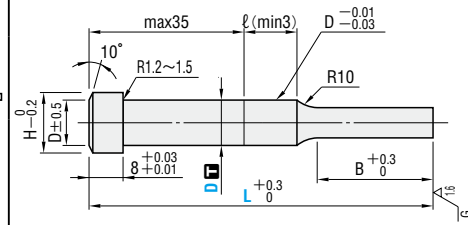


PUNCHES FOR HEAVY LOAD

— FINISHED FOR RETAINERS · TiCN COATING —



Type	Shank diameter D Tolerance	M H	Catalog No.			The tip shape can be selected from Tip shape A~G in the figure below.
			Type	Tip shape	B Tip length	
	Dm5	Equivalent to SKH51 61~64HRC Surface 3000HV	H-AP	A	S L	
			H-APH	D		
	D ^{+0.005} ₀	Equivalent to SKH51 61~64HRC Surface 3000HV	AH-AP	E		
			AH-APH	G		



Catalog No.		L	0.01mm increments				B	H																																																																							
Type	Tip shape		min. P	max. P	P-Kmax.	P-Wmin.																																																																									
(Dm5)	S	5	50	60	70	80	90	100	2.00~4.99	4.97	1.20	0.15 ≤ R < W/2 (R only)	8	10	50	60	70	80	90	100	3.00~7.99	7.97	2.00	13	15	50	60	70	80	90	100	110	120	130	6.00~12.99	12.97	3.00	18	21	50	60	70	80	90	100	110	120	130	10.00~15.99	15.97	4.00	19	25	50	60	70	80	90	100	110	120	130	13.00~19.99	19.97	5.00	25	30	50	60	70	80	90	100	110	120	130	18.00~24.99	24.97	6.00
		L	5	60	70	80	90	100	2.00~4.99	4.97	1.20			13	10	60	70	80	90	100	3.00~7.99	7.97	2.00		19	15	60	70	80	90	100	110	120	130	6.00~12.99	12.97	3.00		25	21	60	70	80	90	100	110	120	130	10.00~15.99	15.97	4.00		30	25	60	70	80	90	100	110	120	130	13.00~19.99	19.97	5.00														
			25	60	70	80	90	100	18.00~24.99	24.97	6.00																																																																				

Ⓛ(50)→B=8 If the full length is (50), the tip length is 8mm in all cases.
 Ⓜ: 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.
 ⓂⓂⓂⓂⓂ: 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.

Order - - - -
 H-APAS 20 - 80 - P15.00

Days to Ship

Alterations - - - - -
 H-APAS 20 - LC82 - PC12.00 - BC13

Alteration	Code	A	D R E G	1Code
Alterations to tip	PC WC	Tip dimension change PC ≥ P _{min.} WC ≥ P·W _{min.} For D5-6, PC ≥ 1.50 0.01mm increments (If combined with PKC, 0.001mm increments can be selected.)	Tip dimension change PC ≥ P·W _{min.} WC ≥ P·W _{min.} For D5-6, PC ≥ 1.00 0.01mm increments	1Code
	BC	Tip length change 2 ≤ BC ≤ B _{max.} 0.1 mm increments Full length L must be at least 35mm longer than tip length BC.	Tip length change 2 ≤ BC ≤ B _{max.} 0.1 mm increments Full length L must be at least 40mm longer than tip length BC.	Quotation
	SC	Lapping of tip P dimension tolerance and increment are the same. The base material is finished before the coating is applied. R=0 cannot be selected for the tip shape D corners.		
	PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1 mm increments P·K ≤ (P-0.2)/2 Cannot be combined with PCC.		
	PCC	Chamfering of tip side edge 0.3 ≤ PCC ≤ 1 0.1 mm increments P·K ≤ (P-0.2)/2 Cannot be combined with PRC.		
	PKC	Tip tolerance change P+0.01 → +0.005 0 P dimension can be selected in 0.001 mm increments. Cannot be used for D>13.	Tip tolerance change P·W ± 0.01 → +0.01 0 Cannot be used for D>13.	

Price

Alteration	Code	A	D R E G	1Code
Alterations to full length	LC	Full length change 35+B(BC) ≤ LC < L 0.1 mm increments If difference between full length and tip length is 35mm or less, tip length is adjusted to (Full length-35mm). (If combined with LKC, 0.01 mm increments can be selected.)	Full length change 40+B(BC) ≤ LC < L 0.1 mm increments If difference between full length and tip length is 40mm or less, tip length is adjusted to (Full length-40mm).	
	LKC	Full length tolerance change L+0.3 → +0.05 0		
Alterations to head	KC	Addition of single key flat to head	Key flat position change 1° increments	
	WKC	Addition of double key flats in parallel	Double key flats in parallel Can be combined with KC.	Quotation
	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		
Alterations to shank	SKC	Single key flat on shank D/2 -0.5/-0.01 D5-6 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·WKC·KFC.		
	NDC	No press-in lead ℓ ≥ 3 → ℓ = 0		