

PRECISION SHOULDER PUNCHES

Type		Catalog No.	Shape
	Equivalent to SKD11 60~63HRC	VSPAS VSPAL Lapping L-VSPAS L-VSPAL	
	Powdered high-speed steel 64~67HRC	VPHAS VPHAL Lapping L-VPHAS L-VPHAL	

Catalog No.		L							0.001mm increments min. P max.		B	H
Type	D	40	45	50	55	60	65	70				
Lapping VSPAS VPHAS	3	40	45	50	55	60	65	70	1.000 ~ 2.990	8	5	
	4	40	45	50	55	60	65	70	1.000 ~ 3.990		7	
	5	40	45	50	55	60	65	70	2.000 ~ 4.990		8	
	6	40	45	50	55	60	65	70	2.000 ~ 5.990		9	
Lapping VSPAL VPHAL	3		50	55	60	65	70	1.000 ~ 2.990	13	5		
	4		50	55	60	65	70	1.000 ~ 3.990		7		
	5		50	55	60	65	70	2.000 ~ 4.990		8		
	6		50	55	60	65	70	2.000 ~ 5.990		9		

Ⓢ P > D - 0.03 → ℓ = 0 If P > D - 0.03, D_{-0.03}^{-0.01} (press-in lead) is not included.

Order **Catalog No.** - L - P
VSPAS 4 - 50 - P2.000

Price **Quotation**

Days to Ship **Quotation**

Alterations **Catalog No.** - L(LC) - P(PC) - (BC·HC·TC, etc.)
VSPAS 4 - 50 - P2.000 - TC4-LKC-KFC150

Alteration	Code	Spec.	1Code
	PC	Tip dimension change PC ≥ P _{min} /2 0.001mm increments	
	BC	Tip length change 2 ≤ BC ≤ B _{max} 0.1mm increments Ⓢ Full length L must be at least 25mm longer than tip length BC.	
	PRC	Rounding of tip side edge 0.3 ≤ PRC ≤ 1 0.1mm 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°) Ⓢ Cannot be used for P ≤ 1.000. Ⓢ Cannot be combined with LKC·PRC·PCC. Ⓢ Punches with lapping are rounded at the edges.	
	LC	Full length change 25 + B (C) ≤ LC < L 0.1mm increments (If combined with LKC, 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 - 25).	
	LKC	Full length tolerance change L +0.1 / 0 → +0.01 / 0	

Alteration	Code	Spec.	1Code
	KC	Addition of single key flat to head	
	WKC	Addition of double key flats in parallel	
	KFC	Double key flats at 0° and a selected angle 1° increments Ⓢ Cannot be combined with KC·WKC.	
	HC	Head diameter change D ≤ HC < H 0.1mm increments	
	TC	Head thickness change 2 ≤ TC < T 0.1mm increments Ⓢ Full length L is shortened by (T - TC). If combined with LC, full length is equal to LC.	
	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.5 ≤ TCC ≤ (H - D)/2 0.1mm increments Ⓢ If H ≤ 5, then TCC is 0.5.	
	SKK	Single key shaft on shank P ≤ D - 1.2 (Machining width 0.5) Ⓢ Cannot be combined with KC·WKC·KFC.	
	NDC	No press-in lead ℓ ≥ 3 → ℓ = 0	

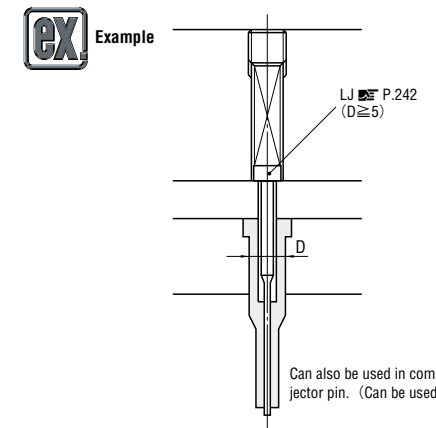
PRECISION SHOULDER PUNCHES WITH AIR HOLES

Type		Catalog No.	Shape
	Equivalent to SKH51 61~64HRC	VSJAS VSJAL Lapping L-VSJAS L-VSJAL	
	Powdered high-speed steel 64~67HRC	VPJAS VPJAL Lapping L-VPJAS L-VPJAL	

Catalog No.		L							0.001mm increments min. P max.		B	d1	S	d2	H
Type	D	40	45	50	55	60	65	70							
Lapping VSJAS VPJAS	4	40	45	50	55	60	65	70	1.500 ~ 3.990	8	0.5	20	1.2	7	
	5	(40)	45	50	55	60	65	70	2.000 ~ 4.990				2.1	8	
	6	(40)	45	50	55	60	65	70	2.000 ~ 5.990				2.6	9	
Lapping VSJAL VPJAL	4		50	55	60	65	70	1.500 ~ 3.990	13	0.5	20	1.2	7		
	5		50	55	60	65	70	2.000 ~ 4.990				2.1	8		
	6		50	55	60	65	70	2.000 ~ 5.990				2.6	9		

Ⓢ L(40) → S=17 If full length is (40), dimension S is 17mm. Ⓢ P > D - 0.03 → ℓ = 0 If P > D - 0.03, D_{-0.03}^{-0.01} (press-in lead) is not included.

Order **Catalog No.** - L - P
VSJAL 6 - 50 - P5.105



Days to Ship **Quotation**

Price **Quotation**

Alterations **Catalog No.** - L(LC) - P(PC) - (BC·HC·TC, etc.)
VSJAL 6 - 50 - P5.105 - TC4-LKC

Alteration	Code	Spec.	1Code
	PC	Tip dimension change PC ≥ P _{min} . 0.001mm increments Ⓢ 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 - d1 - 0.5)/2 Ⓢ Cannot be combined with PCC.	
	PCC	Chamfering to tip side edge 0.3 ≤ PCC ≤ 1 0.1mm increments Ⓢ PRC ≤ (P - d1 - 0.5)/2 Ⓢ Cannot be combined with PRC.	
	LC	Full length change LC < L 0.1mm increments (If combined with LKC, 0.01mm increments can be selected.) Ⓢ B and S dimensions are shortened by (L - LC).	
	LKC	Full length tolerance change L +0.1 / 0 → +0.01 / 0	

Alteration	Code	Spec.	1Code
	KC	Addition of single key flat to head	
	WKC	Addition of double key flats in parallel	
	KFC	Double key flats at 0° and a selected angle 1° increments Ⓢ Cannot be combined with KC·WKC.	
	HC	Head diameter change D ≤ HC < H 0.1mm increments	
	TC	Head thickness change 2 ≤ TC < 5 0.1mm increments Ⓢ Full length L is shortened by (5 - TC). If combined with LC, full length is equal to LC.	
	TCC	Chamfering of head This improves the strength of the punch head. P.1611 0.5 ≤ TCC ≤ (H - D)/2 0.1mm increments Ⓢ If H ≤ 5, then TCC is 0.5.	
	NDC	No press-in lead ℓ ≥ 3 → ℓ = 0	