PUNCHES WITH LOCATING DOWEL HOLES

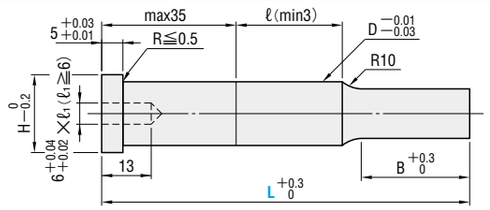
—FINISHED FOR RETAINERS・WPC® TREATMENT・HW COATING—

PRODUCTS DATA P.1605

Type	A	Shank diameter D T tolerance	M H	Catalog No. Type	Tip shape	B Tip length	With dowel hole
WPC® treatment with locating dowel hole	Dowel pin D10～32 MS6—25 D38/45 SJB—CMS	Dm5	Equivalent to SKD11 60～63HRC Surface 1000～1100HV	W—SP	A D R E G	S L X	—C
HW coating with locating dowel hole		Dm5	Equivalent to SKD11 60～63HRC Surface 3000HV	HW—SP			

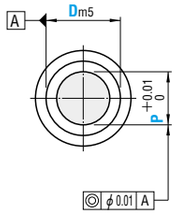
—WPC® treatment— —HW coating— RoHS

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

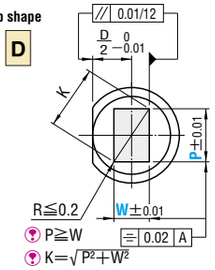


The tip edges are very slightly rounded.
Tip length (B) X>L>S

Tip shape A

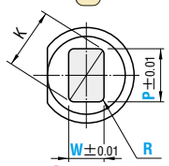


Tip shape D



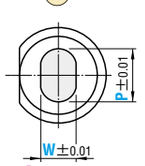
P≧W
K=√(P²+W²)

Tip shape R



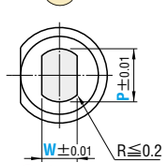
P≧W
0.15≦R<W/2
K=√((P−2R)²+(W−2R)²+2R

Tip shape E



P>W

Tip shape G



P>W

Catalog No. Type	D	L	0.01mm increments Ⓐ min. P max.	0.01mm increments D R E G P·Kmax.	0.01mm increments D R E G P·Wmin.	R R	B	H
S —WPC® treatment— W—SP□S—C —HW coating— HW—SP□S—C	10	(40) 50 60 70 80 90 100 110 120 130 140 150	3.00～ 9.99	9.97	2.50	W/2 (R only) 0.15≦R<	13	13
	13	(40) 50 60 70 80 90 100 110 120 130 140 150	6.00～ 12.99	12.97	3.00			16
	16	(40) 50 60 70 80 90 100 110 120 130 140 150	10.00～ 15.99	15.97	4.00		19	19
	20	(40) 50 60 70 80 90 100 110 120 130 140 150	13.00～ 19.99	19.97	5.00			23
	25	(40) 50 60 70 80 90 100 110 120 130 140 150	18.00～ 24.99	24.97	6.00			28
	(32)	(40) (50) 60 70 80 90 100 110 120 130 140 150	20.00～ 31.99	31.97	7.00			35
	(38)	(40) (50) 60 70 80 90 100 110 120 130 140 150	28.00～ 37.99	37.97	8.00			41
	(45)	(40) (50) 60 70 80 90 100 110 120 130 140 150	35.00～ 44.99	44.97	9.00			48
L —WPC® treatment— W—SP□L—C —HW coating— HW—SP□L—C	10	50 60 70 80 90 100 110 120 130 140 150	3.00～ 9.99	9.97	2.50		19	13
	13	50 60 70 80 90 100 110 120 130 140 150	6.00～ 12.99	12.97	3.00			16
	16	60 70 80 90 100 110 120 130 140 150	10.00～ 15.99	15.97	4.00		25	19
	20	60 70 80 90 100 110 120 130 140 150	13.00～ 19.99	19.97	5.00			23
	25	60 70 80 90 100 110 120 130 140 150	18.00～ 24.99	24.97	6.00			28
	(32)	60 70 80 90 100 110 120 130 140 150	20.00～ 31.99	31.97	7.00			35
	(38)	60 70 80 90 100 110 120 130 140 150	28.00～ 37.99	37.97	8.00			41
	(45)	60 70 80 90 100 110 120 130 140 150	35.00～ 44.99	44.97	9.00			48
X —WPC® treatment— W—SP□X—C —HW coating— HW—SP□X—C	10	70 80 90 100 110 120 130 140 150	6.00～ 9.99	9.97	5.00		30	13
	13	70 80 90 100 110 120 130 140 150	6.00～ 12.99	12.97	5.00			16
	16	80 90 100 110 120 130 140 150	10.00～ 15.99	—	—	—	40	19
	20	80 90 100 110 120 130 140 150	13.00～ 19.99					23
	25	80 90 100 110 120 130 140 150	18.00～ 24.99					28
	(32)	80 90 100 110 120 130 140 150	20.00～ 31.99					35
	(38)	80 90 100 110 120 130 140 150	28.00～ 37.99					41
	(45)	80 90 100 110 120 130 140 150	35.00～ 44.99					48

- L(40): D10～25⋯B=8 If full length is (40) and D dimension is 10～25, tip length is 8mm in all cases.
  D32～45⋯B=6 If full length is (40) and D dimension is 32～45, tip length is 6mm in all cases.
- L(50)⋯B=13 If full length is (50), tip length is 13mm 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.
- D R E G: 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.
- D (32), (38), and (45) are specifications available for W—SP□□—C only.

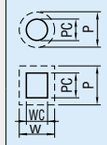
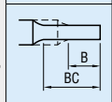
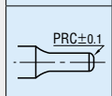
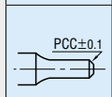
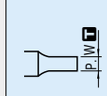
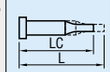
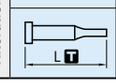
Order Catalog No. — L — P — W — R (R only)
W—SPAS—C25 — 100 — P18.05

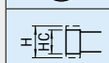
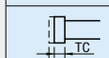
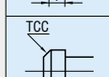
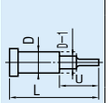
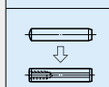
Example

■Uses of punches with locating dowel holes
This type of punch is mainly used with dies for parts such as automobile bodies, in combination with a retainer that holds the punch.Rather than indirect positioning using the retainer dowel hole, these punches can be positioned directly using the dowel hole machined on the punch axis, improving die accuracy.These punches are particularly effective when used for die machining with NC machines.This type of punch can be also used with dies for the external panels of electrical appliances, either in combination with a retainer, or attached to the punch plate of an ordinary progressive die.

Days to Ship **Quotation**

Alterations Catalog No. — L(LC) — P(PC) — W(WC) — R — (BC・HC・TC, etc.)
W—SPAS—C25 — LC95 — P18.05 — BC30

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to tip		PC WC	Tip dimension change PC≧Pmin./2 0.01 mm increments (If combined with PKC, 0.001 mm increments can be selected.) P (PC) / Bmax.: 1.500～1.999 / 20; 2.000～3.999 / 35; 4.000～5.999 / 45; 6.000～ / 60	Tip dimension change PC≧P・Wmin./2 WC≧P・Wmin./2 0.01 mm increments ⊗ Cannot be used for tip X. P(PC)・W(WC) / Bmax.: 1.25～1.49 / 8; 1.50～1.99 / 13; 2.00～3.49 / 19; 3.50～4.99 / 25; 5.00～ / 30	
		BC	Tip length change 2≦BC≦Bmax. 0.1 mm increments ⑦ Full length L must be at least 25mm longer than tip length BC.	Tip length change 2≦BC≦Bmax. 0.1 mm increments ⑦ Full length L must be at least 30mm longer than tip length BC.	
		PRC	Rounding of side edge 0.3≦PRC≦1 0.1mm increments ⑦ PRC≦(P−0.2)/2 ⊗ Cannot be combined with PCC	—	Quotation
		PCC	Chamfering to tip side edge 0.3≦PCC≦1 0.1mm increments ⑦ PCC≦(P−0.2)/2 ⊗ Cannot be combined with PRC.	—	
		PKC	Tip tolerance change $P^{+0.01}_{0}$ ⇨ $^{+0.005}_{0}$ ⑦ (P dimension can be selected in 0.001 mm increments.) ⊗ Cannot be used with HW coating.	Tip tolerance change P・W±0.01⇨ $^{+0.01}_{0}$	
Alterations to full length		LC	Full length change 25+B(BC)≦LC<L 0.1 mm increments ⑦ If difference between full length and tip length is 25mm or less, tip length is adjusted to (Full length−25mm).	Full length change 30+B(BC)≦LC<L 0.1 mm increments ⑦ If difference between full length and tip length is 30mm or less, tip length is adjusted to (Full length−30mm). (If combined with LKC, 0.01 mm increments can be selected.)	
		LKC	Full length tolerance $L^{+0.3}_{0}$ ⇨ $^{+0.05}_{0}$ change		

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to head		KC	Addition of single key flat to head	Key flat position 0°～180° 90° 270° change 1° increments	Quotation
		WKC	Addition of double key flats in parallel	Double key flats in parallel Can be combined with KC.	
		KFC	Double key flats at 0° and a selected angle 1° increments 0° 90° 180° 270° ⊗ Cannot be combined with KC・WKC.	Double key flats at 0° and a selected angle 1° increments 0° 90° 180° 270° ⊗ Cannot be combined with KC・WKC.	
		NKC	—	No key flat	
		HC	Head diameter change D≦HC<H 0.1 mm increments		
		TC	Head thickness change 2≦TC<5 0.1mm increments ⑦ 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 0.1 mm increments 0.5≦TCC≦(H−D)/2		
Alterations to shank		UC	Modification for urethane stripper (USN) installation Code / U / L / Applicable USN: UC40 / 37 / L≧80 / USN40; UC50 / 47 / L≧90 / USN50 ⑦ P・Kmax.=D−1.1 ⑦ Details P.750 ⑦ Can be used for L≧80 or L≧90. ⑦ Can be used for D10 ～ 32.		
		TPC	Dowel pin change MS6—25 that comes with the product is changed to MSTP6—25 (tapped type). ⊗ Cannot be used for D38・45.		
		NDC	No press-in lead	ℓ≧3 ⇨ ℓ=0	

Price **Quotation**