CARBIDE STRAIGHT PUNCHES

●Tip machining limit

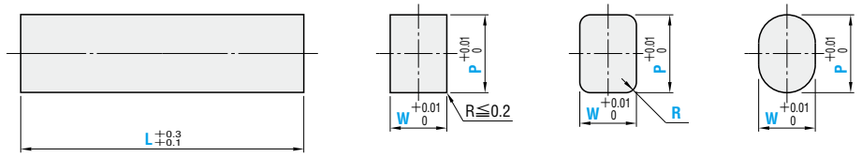
RoHS

Tip shape D	Tip shape R	Tip shape E
P≧W	P≧W 0.15≦R< W/2	P>W

M H	Tip dimension P·W
V30(HIP) 88～89HRA	P·W 2.00～20.00

—Normal—

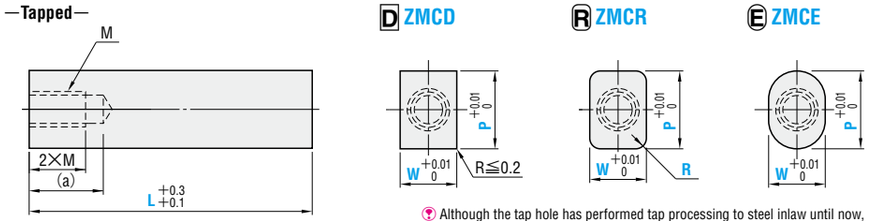
D ZPCD　R ZPCR　E ZPCE



M H	Tip dimension P·W
V30(HIP) 88～89HRA	P·W 12.00～20.00

—Tapped—

D ZMCD　R ZMCR　E ZMCE

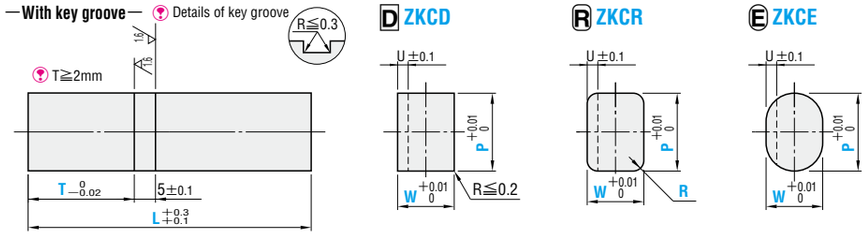


Although the tap hole has performed tap processing to steel inlaw until now, as soon as stock of a factory is lost, tap processing is directly given to the quality of super-hard material.

M H	Tip dimension P·W
V30(HIP) 88～89HRA	P·W 2.00～20.00

—With key groove—　Details of key groove

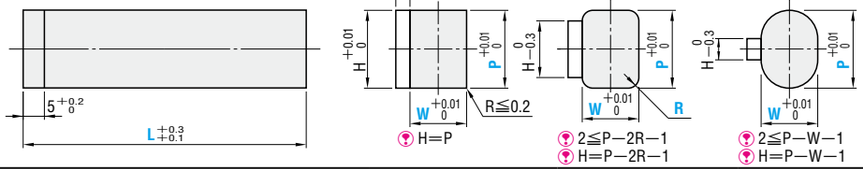
D ZKCD　R ZKCR　E ZKCE



M H	Tip dimension P·W
V30(HIP) 88～89HRA	P·W 2.0～16.0 Cannot be used for products marked with ● in the specification table.

—Single flange—　Details of flange

D ZFCD　R ZFCR　E ZFCE

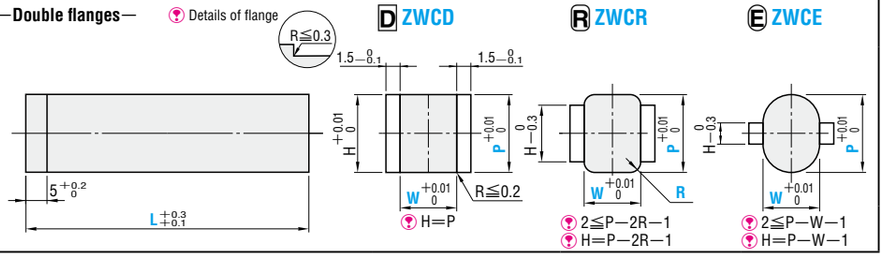


H=P　2≦P−2R−1　H=P−2R−1　2≦P−W−1　H=P−W−1

M H	Tip dimension P·W
V30(HIP) 88～89HRA	P·W 2.0～16.0 Cannot be used for products marked with ● in the specification table.

—Double flanges—　Details of flange

D ZWCD　R ZWCR　E ZWCE



H=P　2≦P−2R−1　H=P−2R−1　2≦P−W−1　H=P−W−1

Catalog No. Type	Tip shape	L	P / W	2.00～5.00	5.01～10.00	10.01～16.00	16.01～20.00	0.1mm T	U
ZPC ZKC ZFC ZWC	D R E	40 50 60 70	2.00～ 3.00	○	○	○		T≧2	1.0
			3.01～ 4.00	○	○	○	●		
			4.01～ 5.00	○	○	○	●		
			5.01～ 6.00		○	○	●		1.5
			6.01～ 8.00		○	○	●		
			8.01～10.00		○	○	●		
			10.01～16.00			○	●		
			16.01～20.00				●		

Catalog No. Type	Tip shape	L	P / W	12.00～16.00	16.01～20.00	M	(a)
ZMC	D R E	40 50 60 70	12.00～13.00	○	○	8	20
			13.01～16.00	○	○		
			16.01～20.00		○		

Order

Catalog No.	—	L	—	0.01mm increments P	—	W	—	R (R only)	—	0.1mm increments T≧2	—	K·F·WF
ZPCD	—	60	—	P14.28	—	W 9.28						
ZMCR	—	60	—	P15.00	—	W12.00	—	R0.15				
ZKCR	—	60	—	P14.28	—	W 9.28	—	R0.5	—	T25.5	—	K0
ZFCE	—	60	—	P10.00	—	W 5.50					—	F0
ZWCE	—	60	—	P12.01	—	W 8.05					—	WF0

Days to Ship　Quotation　Price　Quotation

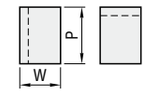
Alterations　Catalog No. — L(LC) — P — W — R — T — K·F·WF — (PKC, etc.)

ZPCD — LC65.5 — P5.80 — W5.20 — PKC

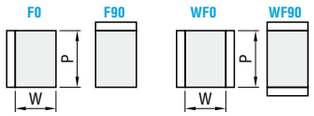
Alteration		Code	Spec.	1Code
Tip	W T P	PKC	Tip tolerance change P·W +0.01 0 ⇨ +0.005 0	Quotation
		PKM	Tip tolerance change P·W +0.01 0 ⇨ 0 −0.005	
		PKV	Tip tolerance change P·W +0.01 0 ⇨ ±0.005	
Alterations to full length	LC L	LC	Full length change 20≦LC<L 0.1mm increments (If combined with LKC·LKZ, 0.01mm increments can be selected.)	
	L T	LKC	Full length tolerance change L +0.3 +0.1 ⇨ +0.05 0	
		LKZ	Full length tolerance change L +0.3 +0.1 ⇨ +0.01 0	
Alterations to flange	HC	HC	Flange width change 0≦HC<1.5 0.1mm increments	
	T TC	TC	Flange thickness change 2≦TC<5 0.1mm increments (If combined with TKC·TKM, 0.01mm increments can be selected.) Full length L is shortened by (5−TC). If combined with LC, full length is equal to LC.	
	T T	TKC	Flange thickness tolerance change T +0.2 0 ⇨ +0.02 0	
		TKM	Flange thickness tolerance change T +0.2 0 ⇨ 0 −0.02	
		FK	Relief chamfering to flange top edge Flange edge is chamfered to prevent flange breakage. ⊗ Cannot be used for normal, tapped, and key groove types.	

Alteration		Code	Spec.	1Code
Alterations to key groove	T T	RTC	Key groove position tolerance change T 0 −0.02 ⇨ +0.05 0	Quotation
		WK	Addition of key groove at symmetrically opposite position W− {2×U(UK)} ≧2.0(K0) P− {2×U(UK)} ≧2.0(K90) An additional key groove is added at a position symmetrically opposite to the specified key groove. Can be combined with UK. Can be used for key groove types.	
	UK U	UK	Key groove depth change 0.1mm increments 0.5≦UK≦U+0.2 P(W)−UK≧2.0 Can be combined with WK. Can be used for key groove types.	
Alterations to tap	M 2×M (a)	MC	Tap diameter change For change from M8 to M6 (a) size is M×2+4mm (reference value).	
Alterations to shape	4−C0.5 CCN	CCN	Chamfering to shank (4 locations) 5≦CCN≦L 1mm increments Can be used for tip shape D only. Flange side of flanged punch becomes CCN−T(TC).	

■Key groove position specified



■Flange position specified



Tip shape E Can be selected for F0·WF0 only.

For F90·WF90, dimension H is as shown below.

Tip shape D : 2≦W　H=W

Tip shape R : 2≦W−2R−1　H=W−2R−1

Flanged types (both single flange and double flanges) with shapes R·E include 0.5m m straight parts on each of the flange sides.