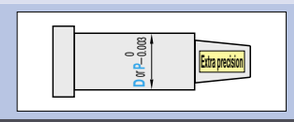
EXTRA PRECISION SHORT TIP (ℓ)ONE-STEP CORE PINS

—SHAFT DIAMETER (D) SELECTION TYPE／SHAFT DIAMETER (P) DESIGNATION (0.001mm INCREMENTS) TYPE—



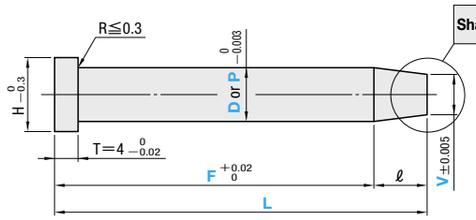
Non JIS material definition is listed on P.1351 - 1352

RoHS

M H	Part Number			
	Type		Step	Shape
	Shaft diameter (D) selection type	Shaft diameter (P) designation type		
SKH51 equivalent 58～60HRC	S−CPM−	S−CPMB−	1A 1B 1C 1D	Not processed C T R B

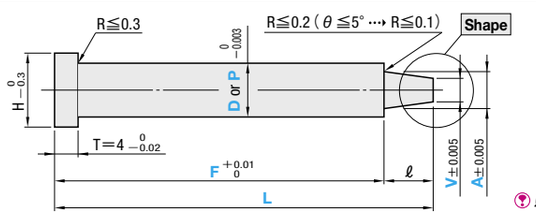
Step type selected from 1A～1D below

1A



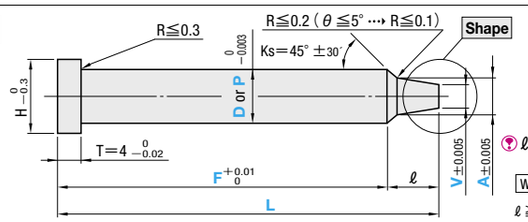
ℓ ≧0.3+ α

1B



ℓ ≧0.4+ α

1C

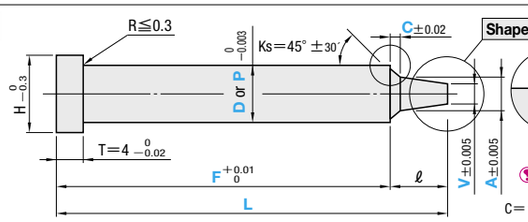


ℓ ≧ (DorP) −A / 2 +0.3+ α

When AC code is used

ℓ ≧ (DorP) −A / 2tanAC +0.3+ α

1D



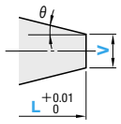
ℓ ≧C+0.3+ α

C= (DorP) −A / 2 ⇨ Step 1C

Refer to the Shape drawing for L tolerance

Shape (Tip shape: V is dimension before tip processing.)

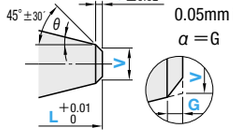
(Not processed)



Designation of the shape is unnecessary when tip processing is not required.

α =0 θ ≦10°

C (C chamfered)

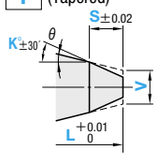


0.1≦G<V/2

0.05mm increments

α =G θ ≦10°

T (Tapered)



0.1≦S< V / 2tanK

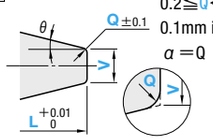
0.05mm increments

10≦K≦45

1° increments

α =S θ ≦10°

R (R chamfered)

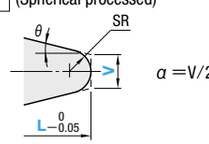


0.2≦Q<V/2

0.1mm increments

α =Q θ ≦10°

B (Spherical processed)



α =V/2 θ ≦10°

(Calculation of tip gradient θ P.1315)

■Shaft diameter (D) selection type

H	Part Number				0.01mm increments L min.	L max.	F min.	F max.	0.005mm increments A	Vmin.	0.01mm increments C	ℓmax.
	Type	Step	Shape	D								
3	S−CPM−	1A	Designation is unnecessary when tip processing is not required.	1	12.00	100.00	10.00	L−ℓmin. ℓmin. Refer to the Step drawing	D>A≧V Step 1A D>V No designation necessary for A	0.500	Only Step 1D designated C< D−A / 2 and 0.10≦C/C≦0.50	ℓ≦D (when ℓ>D) P.455
4				1.5								
5		1B		2								
6				2.5						0.700		
7				3								
8		1C		3.5						1.000		
9			C	4								
			T	4.5						1.500		
			R	5								
		1D	B	5.5						2.000		
				6								

■Shaft diameter (P) designation type

H	Part Number				0.01mm increments L min.	L max.	0.001mm increments P min.	P max.	0.01mm increments F min.	F max.	0.005mm increments A	Vmin.	0.01mm increments C	ℓmax.
	Type	Step	Shape	No.										
3	S−CPMB−	1A	Designation is unnecessary when tip processing is not required.	1	12.00	100.00	0.800～0.999		10.00	L−ℓmin. ℓmin. Refer to the Step drawing	P>A≧V Step 1A P>V No designation necessary for A	0.500	Only Step 1D designated C< P−A / 2 and 0.10≦C/C≦0.50	ℓ≦P (When ℓ>P) P.457
4				1.5			1.000～1.499							
5		1B		2			1.500～1.999							
6				2.5			2.000～2.499					0.700		
7				3			2.500～2.999							
8		1C		3.5			3.000～3.499					1.000		
9			C	4			3.500～3.999							
			T	4.5			4.000～4.499							
			R	5			4.500～4.999					1.500		
		1D	B	5.5			5.000～5.499							
				6			5.500～5.999					2.000		

Order

Part Number	L	P	F	A	V	C	Tip size (K・S・G・Q)
Shaft diameter (D) selection type S−CPM−1B 4	38.00		F37.50	A2.800	V2.740		
Shaft diameter (P) designation type S−CPMB−1BR4.5	45.00	P4.405	F44.40	A3.700	V3.600		Q0.2

Days to Ship: Quotation

Price: Quotation

Alterations

Part Number	L	P	F(FC)	A	V(VC)	C	Tip size (K・S・G・Q)	(KC・WKC…etc.)
Shaft diameter (D) selection type S−CPM−1A 2	15.00		F14.70		V1.950			HC3.8
Shaft diameter (P) designation type S−CPMB−1BR4.5	45.00	P4.405	F44.40	A3.700	V3.600		Q0.2	TC2

Alteration details P.441

Alterations	Code	Spec.	1Code
KC 0 −0.01	KC	Single flat cutting (D or P)/2≦KC<H/2	Quotation
WKC 0 −0.01	WKC	Two flats cutting (D or P)/2≦WKC<H/2	
KAC KBC 0 −0.01	KAC KBC	Varied width parallel flats cutting (D or P)/2≦KAC<H/2 KBC=0.1mm increments only KAC<KBC<H/2	
RKC RKC 0 −0.01	RKC	Two flats (right angled) cutting (D or P)/2≦RKC<H/2	
DKC DKC DKC 0 −0.01	DKC	Three flats cutting (D or P)/2≦DKC<H/2	
SKC SKC 0 −0.01	SKC	Four flats cutting (D or P)/2≦SKC<H/2	
AG° ±0.5 0° KGC KGC −0.01	KGC	Two flats (angled) cutting (D or P)/2≦KGC<H/2 0<AG<360 AG=1° increments	
120° 120° 120° KTC 0 −0.01	KTC	Three flats cutting at 120° (D or P)/2≦KTC<H/2	

About Designation Unit for Key Flat Cutting

(1)To align the key flat with the shaft diameter

Unit of designation: Shaft diameter (D) selection type 0.05mm increments possible; Shaft diameter (P) designation type 0.0005mm increments possible

(2)To designate arbitrary key flat dimensions

Unit of designation 0.1mm

Alterations	Code	Spec.	1Code
H HC −0.3 0	HC	Head diameter change HC=0.1mm increments (D or P)≦HC<H In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	Quotation
H HCC −0.02 0	HCC	Head diameter change (precision) HCC=0.1mm increments (D or P)+0.5≦HCC<H−0.3	
TC 0 −0.02 4	TC	Head thickness change TC=0.1mm increments 1.5≦TC<4 (Dimensions L and F remain unchanged.) 4−TC≦Lmax.−L	
	TRN	Relief under the head (No need for plate chamfering)	
A15 8	NHC	Numbering on the head How to order P.442 Available when H≧2 Combination with SKC not available.	
AC°	AC	Changes the standard angle (Ks=45°) AC=1° increments Available for Step 1C 30≦AC≦60 When Step 1D, C≦1.0,A+2(C×tanAC)<(D or P)	
VC	VC	Vmin. is enlarged. VC=0.005mm increments (D or P)>A≧VC Regarding D or No.=2～3, 4.5 and 5, Vmin. is the machining limit, and VC cannot be used.	
FC F	FC	F dimension becomes shorter than Fmin. Makes L dimension shorter than L min. too. FC ≧ 5mm It can be designated up to Lmin. = 6.5mm.	
F GB GS	GVC	Gas vent machining GS・GB=1mm increments Available when (D or P)≧2 2≦GS≦10 GS+2≦GB≦30 Fmin.≦F−GB How to order P.442	

DorNo.	Vmin.	VCmin.
1～1.5	0.500	0.400
3.5～4	1.000	0.700
5.5	1.500	1.000
6	2.000	1.500