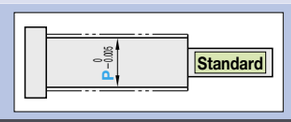
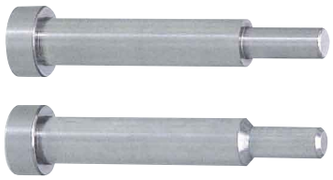
TAPERLESS ONE-STEP CORE PINS (NO DRAFT ANGLE CORE PINS)

—SHAFT DIAMETER (P) DESIGNATION (0.01mm INCREMENTS) TYPE—



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

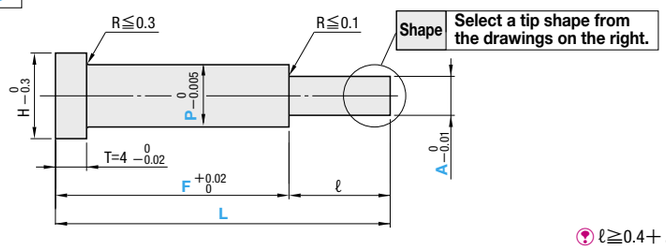


RoHS

M H	Part Number Type	Step	Shape
SKD61 equivalent 48～52HRC	CPPBS—		S
SKH51 equivalent 58～60HRC	CPHBS—	B C	C
NAK80 37～43HRC	CPKBS—	D	G T
SUS440C 56～60HRC	CPWBS—	E	R B

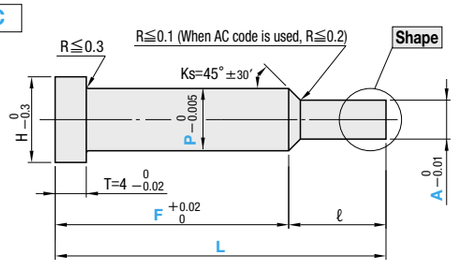
Step (Step type) Select from B～E in the drawing below.

B



ℓ≧0.4+α

C

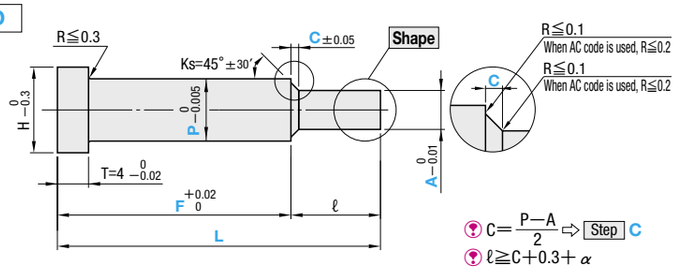


$\ell \geqq \frac{P-A}{2} + 0.3 + \alpha$

When AC code is used

$\ell \geqq \frac{P-A}{2\tan AC^{\circ}} + 0.3 + \alpha$

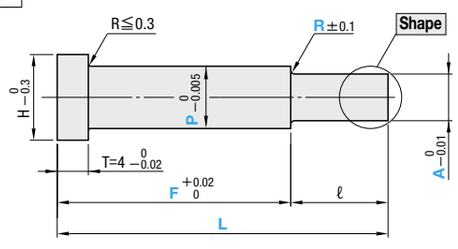
D



$C = \frac{P-A}{2}$ ⇨ Step C

ℓ≧C+0.3+α

E

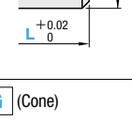


P≧0.90

ℓ≧R+0.3+α

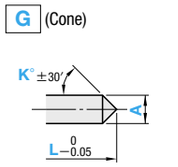
Shape (Tip shape)

S (Not processed)



α=0

C (C chamfering)

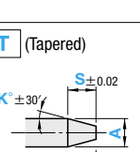


0.1≦G<A/2

0.1mm increments

α=G

G (Cone)

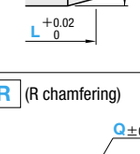


20<K≦60

1° increments

$\alpha = \frac{A}{2\tan K}$

T (Tapered)



$0.1 \leqq S < \frac{A}{2\tan K}$

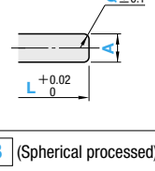
0.1mm increments

0<K≦45

1° increments

α=S

R (R chamfering)

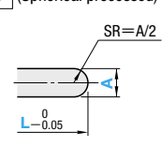


0.2≦Q<A/2

0.1mm increments

α=Q

B (Spherical processed)



α=A/2

H	Part Number Type	Step	Shape	No.	L min.	L max.	0.01mm increments min.Pmax.	F min.	F max.	A min.	A max.	0.1mm increments C	0.1mm increments R	ℓ max.
3	CPPBS— CPHBS— CPKBS— (P≦15.99) CPWBS— (P≦15.99)	B C D E	S C G T R B	1	12.00	CPHBS only 150.00	0.80～ 0.99	10.00	L−ℓ min. ℓ min. Refer to Step drawing	0.50	P>A	Only Step D is designated. C<(P−A)/2 and 0.1≦C≦4.0	Only Step E is designated. R≦(P−A)/2 and R≧0.2	ℓ≦10×A and ℓ≦35
				1.5			1.00～ 1.49							
4				2		100.00	1.50～ 1.99							
5				2.5			2.00～ 2.49							
6				3			2.50～ 2.99			0.70				
7				3.5		120.00	3.00～ 3.49			1.00				
				4			3.50～ 3.99							
8				4.5			4.00～ 4.49							
				5		120.00	4.50～ 4.99			1.50				
9				5.5			5.00～ 5.49							
				6			5.50～ 5.99			2.00				
10				6.5			6.00～ 6.49							
				7			6.50～ 6.99							
11				8			7.00～ 7.99							
15				10			8.00～ 9.99							
18				13			10.00～12.99							
21				16			13.00～15.99							
25				20	30.00		16.00～19.99	28.00		5.00				

Step E is No.1 (P≧0.90)～

Order

Part Number	L	P	F	A	C・R	Tip size (K・S・G・Q)
CPPBS—BS4	45.55	P3.98	F40.00	A3.50		
CPHBS—CC6	52.30	P5.56	F42.50	A4.60		G1.0
CPWBS—DG5	48.62	P4.77	F37.55	A4.00	C0.2	K30
CPKBS—ER6.5	55.65	P6.23	F42.35	A4.50	R0.5	Q0.5

Days to Ship: Quotation

Price: Quotation

Alterations

Part Number	L	P	F	A(AAC)	C(CVC)・R(RE)	K・S・G・Q	(KC・WKC…etc.)
CPPBS—DC6	65.00	P5.75	F55.00	A3.50	C0.5	G0.5	KC3.0—TC3.0
CPHBS—DS5	50.00	P4.89	F38.00	A2.00	C0.3	TRN	

Alteration details P.495

Alterations	Code	Spec.	1Code
KC	KC	Single flat cutting P/2≦KC<H/2	Quotation
WKC	WKC	Two flats cutting P/2≦WKC<H/2	
KAC KBC	KAC KBC	Varied width parallel flats cutting P/2≦KAC<H/2 KBC=0.1mm increments only KAC<KBC<H/2	
RKC	RKC	Two flats (right angled) cutting P/2≦RKC<H/2	
DKC	DKC	Three flats cutting P/2≦DKC<H/2	
SKC	SKC	Four flats cutting P/2≦SKC<H/2	
KGC	KGC	Two flats (angled) cutting P/2≦KGC<H/2 0<AG<360 AG=1° increments	
KTC	KTC	Three flats cutting at 120° P/2≦KTC<H/2	
HC	HC	Head diameter change HC=0.1mm increments P≦HC<H In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	

About Designation Unit for Key Flat Cutting

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

Unit of designation 0.005mm increments possible

(2)To designate arbitrary key flat dimensions

Unit of designation 0.1mm

Alterations	Code	Spec.	1Code
HCC	HCC	Head diameter change (precision) HCC=0.1mm increments P+0.5≦HCC<H−0.3	Quotation
TC	TC	Head thickness change TC=0.1mm increments 1.5≦TC<4 (Dimensions L and F remain unchanged) 4−TC≦Lmax.−L	
TRN	TRN	Relief under the head (Makes plate chamfering unnecessary)	
NHC	NHC	Numbering on the head How to order P.496 Available when H≧2 ⊗ Combination with SKC not available.	
RE	RE	R shape alteration (enlargement) RE=0.5mm increments 0.5≦RE≦2.0 F tolerance is +0.05 0 Available for Step E	
CVC	CVC	C dimension can be designated at 0.01mm increments. 0.10≦CVC≦1.00 CVC=0.01mm increments Available for Step D	
AAC	AAC	Extends the working limit of A min. AAC=0.01mm increments ℓ≦10×AAC CPKBS is available when P≧3.00	
AC	AC	Changes the standard angle (Ks=45°). AC=1° increments Available for Step C・D 30≦AC≦60 When Step D, C≦1.0, A+2(C×tanAC°)<P	
GVC	GVC	Gas vent machining GS・GB=1mm increments Available when P≧2.00 2≦GS≦10 GS+2≦GB≦30 F min.≦F−GB How to order P.496	

No.	A min.	AAC min.
1～1.5	0.50	0.40
3.5～4	1.00	0.70
5.5	1.50	1.00
6～16	2.00	1.50
20	5.00	4.00

⊗ In case of No.=2～3・4.5・5, A min. is the machining limit, and AAC cannot be used.

For details of a Gas Release Core Pin, which is a product similar to alteration GVC, P.513

Refer to the Shape drawing for L tolerance