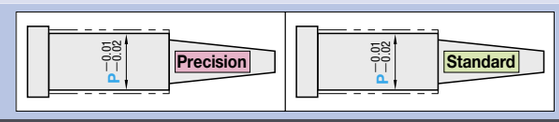
High Speed Steel
SKH51 equivalent
P$^{-0.01}_{-0.02}$

ONE-STEP CENTER PINS

—SHAFT DIAMETER (P) DESIGNATION (0.01mm INCREMENTS) TIP (A・V) TOLERANCE : ±0.005／±0.01／±0.02 TYPE—



For shaft diameter selection type, refer to P.355.

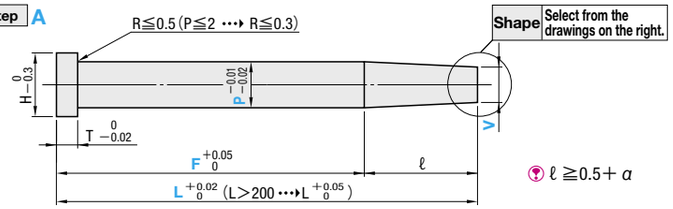
RoHS

M SKH51 equivalent　Range of guaranteed shaft diameter precision (Details P.1305)
H 58～60HRC　Range of guaranteed base material hardness (Details P.1307)

Type	T P	Head Thickness (T)	Applicable ejector sleeve hole tolerance
CPXGE—5	−0.01 −0.02	4mm (T4)	$^{+0.01}_{0}$ or H7
CPHGE—5			
CPVGE—5			
CPXJGE—5		4・6・8mm(JIS)	Details P.1309
CPHJGE—5			
CPVJGE—5			

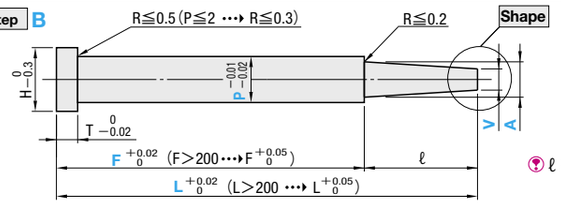
Step (Step type) Select from A～E in the drawings below

Step A



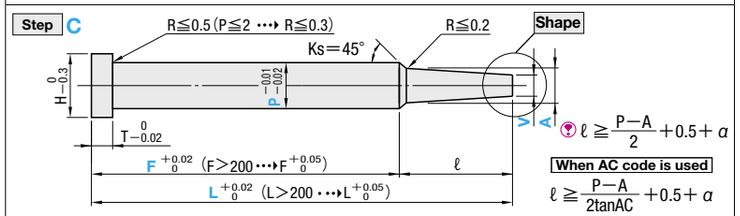
ℓ ≧0.5+α

Step B



ℓ ≧0.7+α

Step C

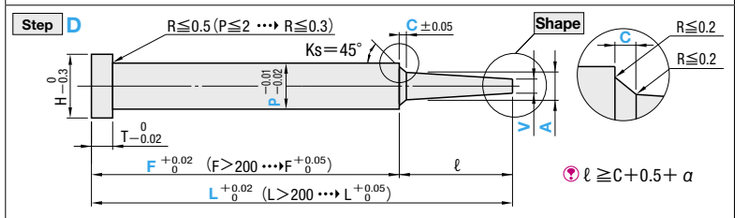


ℓ ≧$\frac{P-A}{2}$+0.5+α

When AC code is used

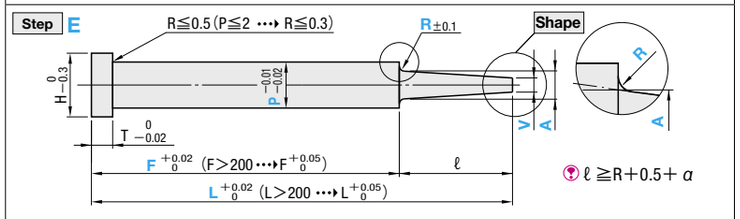
ℓ ≧$\frac{P-A}{2tanAC}$+0.5+α

Step D



ℓ ≧C+0.5+α

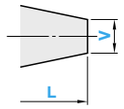
Step E



ℓ ≧R+0.5+α

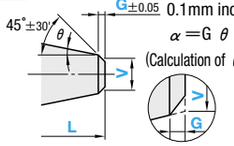
Shape (Tip shape : V is dimension before tip processing.)

(Not processed)　Designation of the shape is unnecessary when tip processing is not required.



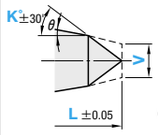
α=0

C (C chamfered)　0.5≦G<V/2



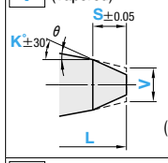
0.1mm increments
α=G　θ<45°
(Calculation of θ P.1315)

G (Cone)



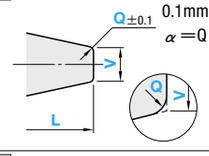
20<K≦60
1° increments
α=$\frac{V}{2tanK}$　θ<K
(Calculation of θ P.1315)

T (Tapered)　0.1≦S<$\frac{V}{2tanK}$



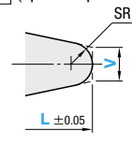
0.1mm increments
20<K≦45
1° increments
α=S　θ<K
(Calculation of θ P.1315)

R (R chamfered)　0.2≦Q<V/2



0.1mm increments
α=Q

B (Spherical processed)



α=V/2

Group	Type		Step (Step type A・V・Ks) T							
			Step A	Step B	Step C		Step D		Step E	
	4mm head	JIS head	V	A・V	A・V	Ks	A・V	Ks	A	V
Standard	CPXGE—5□	CPXJGE—5□	±0.02	±0.02	±0.02	±1°	±0.02	±1°	±0.02	±0.02
	CPHGE—5□	CPHJGE—5□	±0.01	±0.01	±0.01	±1°	±0.01	±1°		±0.01
Precision	CPVGE—5□	CPVJGE—5□	±0.005	±0.005	±0.005	±30'	±0.005	±30'		±0.005

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

4mm head H	4mm head T	JIS head H	JIS head T	Part Number Type 4mm head	Part Number Type JIS head	Step	Shape	No.	0.01mm increments L	P	F	A	Vmin.	0.1mm increments C・R	ℓ max.
3	4	3	4	CPXGE—5	CPXJGE—5	A	C	1	70.00～150.00	0.80～ 0.99	F≧50.00	P>A≧V No need to designate A when Step A is selected.	0.50	Step D only 0.1≦C≦1.5 and C<$\frac{P-A}{2}$	15
									150.01～200.00	0.90～ 0.99					20
4		4		CPHGE—5	CPHJGE—5	B	G	1.5	70.00～250.00	1.00～ 1.49					25
5		5		CPVGE—5	CPVJGE—5	C	T	2		1.50～ 1.99			0.70		30
6		6				D	R	2.5		2.00～ 2.49					35
7		7				E	B	3	70.00～300.00	2.50～ 2.99			1.00		40
								3.5		3.00～ 3.49					45
8		8						4		3.50～ 3.99					
								4.5		4.00～ 4.49			1.50	Step E only R≧0.3 and R≦$\frac{P-A}{2}$	
9		9	6					5	70.00～350.00	4.50～ 4.99					50
								5.5		5.00～ 5.49					
		10						6		5.50～ 5.99					
10		11						6.5		6.00～ 6.49			2.00		
								7		6.50～ 6.99					
11		13						8		7.00～ 7.99					
15		15	8					10		8.00～ 9.99					
17		17						12		10.00～11.99					

Shape C・G・T・R・B is No.1.5 (P≧1.0)～　Step E is No.1.5 (P≧1.10)～　Refer to the drawing for ℓ min. (normally, α=0)

Order

Part Number	L	P	F	A	V	C(R)	Tip size (K・S・G・Q)
CPHGE—5ET 6	350.00	P5.95	F330.00	A5.00	V4.50	R0.5	K35 — S1.0

Days to Ship　Quotation

Alterations

Part Number	L	P	F	A	V	C(R)	Tip size (K・S・G・Q)	(KC・WKC…etc.)
CPHGE—5ET 6	350.00	P5.95	F330.00	A5.00	V4.50	R0.5	K35—S1.0	KC3.0

Alteration details P.351

Alterations	Code	Spec.	1Code
VKC	VKC	Single flat cutting (precision) P/2≦VKC<H/2	Quotation
VWC	VWC	Two flats cutting (precision) P/2≦VWC<H/2	
KC	KC	Single flat cutting P/2≦KC<H/2	
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	
KGC	KGC	Two flats (angled) cutting P/2≦KGC<H/2 AG=1° increments 0<AG<360	
KTC	KTC	Three flats cutting at 120° 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 0.005mm increments possible

(2)To designate arbitrary key flat dimensions
Unit of designation 0.1mm

Alterations	Code	Spec.	1Code
H HC	HC	HC=0.1mm increments P≦HC<H, P≧1.5 In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	
H HCC	HCC	HCC=0.1mm increments P+1≦HCC<H−0.3, P≧1.5	
TC	TC	TC=0.1mm increments T/2≦TC<T, P≧1.5 T−TC≦Lmax.−L (Dimensions L and F remain unchanged)	
NC	NC	Dowel hole boring Available when H≧4 Combination with other than NHC・NHN・AC・RR not available. (T: d: ℓ: 4: 2: 3 / 6: 3: 5 / 8: 3: 5)	Quotation
NCW	NCW	Dowel hole boring+Spring pin driving Available when H≧4 Combination with other than NHC・NHN・AC・RR not available. (T: d: ℓ1: 4: 2: / 6: 3: 5 / 8: 3: 5)	
217	NHC	Numbering on the head How to order P.352 Available when H≧2	
1 2 3	NHN	Automatic sequential numbering on the head How to order P.352 Available when H≧2	
AC°	AC	Changes the standard angle (Ks=45°). AC=1° increments 30≦AC≦60 Available for Step C・D Combination with RR not available. When Step D, C≦1.0, A+2(C×tanAC°)<P	
RR	RR	Changes R (normally 0.2 or less) to R0.3～0.5. (for strength improvement) Designation method RR Available for Step B・C・D P−A≧1.0　When Step D, C≧0.5	

Price　Quotation

Stepped Center Pins

High Speed Steel SKH51 equivalent