

STRAIGHT CORE PINS WITH TIP PROCESS

—SHAFT DIAMETER (D) SELECTION TYPE / SHAFT DIAMETER (P) DESIGNATION (0.01mm INCREMENTS) TYPE—

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

RoHS

Shape Select from the drawing on the right.

Type	Material	Hardness	D or P
CPD□□ CPDB□□	SKD61 equivalent	48~52HRC	-0.01 -0.02
CPX□□ CPXB□□	SKH51 equivalent	58~60HRC	
CPP□□ CPPB□□	SKD61 equivalent	48~52HRC	0 -0.005
CPH□□ CPHB□□	SKH51 equivalent	58~60HRC	

Ⓜ To decide the shape processing position, process a key flat cutting on the standard 0°.

Shaft Diameter (D) Selection Type

H	Part Number		0.01mm increments		U/Price 1~4										
	Type	Shape	D	L	CPX□□ · CPP□□ · CPH□□					CPD□□					
					1G	2G · 1R · 3R	1Z	2R · 4R	5R	1G	2G · 1R · 3R	1Z	2R · 4R	5R	
3	CPD	1G 1R 2R 3R 4R	1	15.01~100.00											
4			2												
5			2.5												
6			3												
7	CPX (D ^{-0.01})	1G 2G	3.5	15.01~120.00											
8			4												
9	CPP CPH (D ⁰)	1Z 1R 2R 3R 4R 5R	5	15.01~150.00											
10			5.5												
11			6												
15			6.5												
18			7												
21			8												
			10												
			13												
			16												

Shaft Diameter (P) Designation (0.01mm increments) Type

H	Part Number		0.01mm increments		U/Price 1~4											
	Type	Shape	No.	L	P	CPXB□□ · CPPB□□ · CPHB□□					CPDB□□					
						1G	2G · 1R · 3R	1Z	2R · 4R	5R	1G	2G · 1R · 3R	1Z	2R · 4R	5R	
3	CPDB CPXB (P ^{-0.01})	1G 1R 2R 3R 4R	1.5	15.01~100.00	1.00~1.49											
4			2		1.50~1.99											
5			2.5		2.00~2.49											
6			3		2.50~2.99											
7	CPPB CPHB (P ⁰)	1G 2G	3.5	15.01~120.00	3.00~3.49											
8			4		3.50~3.99											
9	CPPB CPHB (P ⁰)	1Z 1R 2R 3R 4R 5R	5	15.01~150.00	4.00~4.49											
10			5.5		4.50~4.99											
11			6		5.00~5.49											
15			6.5		5.50~5.99											
18			7		6.00~6.49											
21			8		6.50~6.99											
			10		7.00~7.99											
			13		8.00~9.99											
			16		10.00~12.99											
					13.00~15.99											

Shape

1G (Slope processing)

- $L - \ell \geq 15$
- $\ell = P \tan(90 - G)$
- $45^\circ \leq G < 90^\circ$

2G (Slope part- processing)

- $L - \ell \geq 15$
- $\ell = (P - V) \tan(90 - G)$
- $45^\circ \leq G < 90^\circ$
- $1.5 \leq V < P$

1Z (Z groove)

- $0^\circ \leq G \leq 45^\circ$
- $1.5 \leq V < P$
- $L - F \leq 10$
- $V - (L - F) \tan G \geq 1$
- $R \leq 0.2$
- $F \geq 15$
- R designation not available.

1R (Outer R processing)

- $L - R \geq 15$
- $\ell = R - \sqrt{R^2 - P^2}$
- $P \leq R \leq 15$

2R (Outer R processing · F designation)

- $F \geq 15$
- $P < R \leq 15$
- $L - F > R - \sqrt{R^2 - P^2}$

3R (Inner R processing)

- $L - \ell \geq 15$
- $\ell = R - \sqrt{R^2 - P^2}$
- $P \leq R \leq 15$

4R (Inner R processing · F designation)

- $F \geq 15$
- $P < R \leq 15$
- $L - F > R - \sqrt{R^2 - P^2}$

5R (R groove)

- $L - \ell \geq 15$
- $\ell = R - \sqrt{R^2 - \left(\frac{P}{2}\right)^2}$
- $1.2P \leq R \leq 2P$

Ⓜ In the machining condition formula, D=P for shaft diameter (D) selection type.

Order

Part Number — L — P — Sequence of G/V/R/F

(Shaft diameter (D) selection type) CPH1G 5 — 40.00 — G60

(Shaft diameter (P) designation type) CPHB3R6 — 60.00 — P5.95 — R10

Unit of designation

Symbol	Unit of designation
G ± 30'	1° increments
R ± 0.02	0.1mm increments
V ± 0.05	0.1mm increments
F	0.01mm increments

Days to Ship

Quotation

Alterations

Part Number — L — P — Sequence of G/V/R/F — (AKC · AWC...etc.)

CPH2G10 — 50.00 — G70 — V2.0 — AKC45

Ⓜ NHC Express service not available

Alterations

Alterations	Code	Spec.	1Code
	AKC	Head angle alteration AKC=1° increments 0 < AKC < 360 Ⓜ No need to designate AKCO	
	AWC	Head angle alteration (2 planes) AWC=1° increments 0 ≤ AWC < 360	
	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
	HCC	Head diameter change (precision) HCC=0.1mm increments (D or P) + 0.5 ≤ HCC < H - 0.3	
	TC	Head thickness change TC=0.1mm increments 1.5 ≤ TC < 4 (Dimensions L and F remain unchanged.) 4 - TC ≤ Lmax. - L	

Alteration details Ⓜ P.395

Alterations	Code	Spec.	1Code
	TRN	Relief under the head (No need for plate chamfering)	
	NHC	Numbering on the head How to order Ⓜ P.396	Quotation
	GVC	Gas vent machining GS · GB=1mm increments Ⓜ 2 + L ≤ GS ≤ 12 GS + 2 ≤ GB ≤ 30 2 + (L - F) ≤ GS ≤ 12 L - GB ≥ 10 How to order Ⓜ P.396	