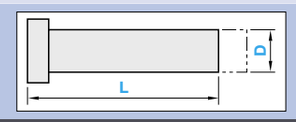
Dies Steel
SKD61 equivalent

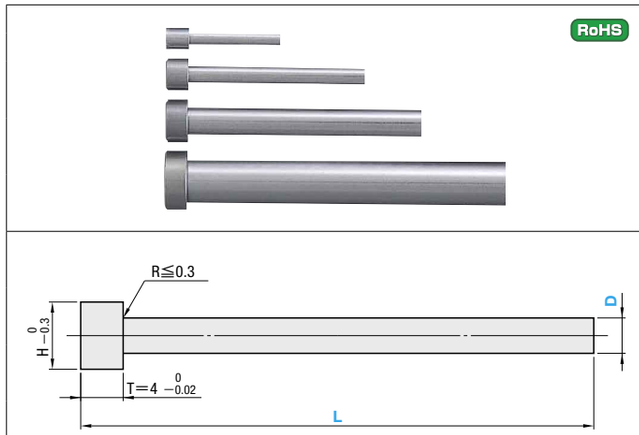
High Speed Steel
SKH51 equivalent

STRAIGHT CORE PINS

—SHAFT DIAMETER (D) SELECTION • L DIMENSION DESIGNATION TYPE—



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



Type	M	H	Group	T D	T L
CPD—L	SKD61 equivalent	48～52HRC	Standard	−0.01 −0.02	+0.02 0
CPX—L	SKH51 equivalent	58～60HRC	Standard	−0.01 −0.02	+0.02 0
CPP—L	SKD61 equivalent	48～52HRC	Standard	0 −0.005	+0.02 0
CPH—L	SKH51 equivalent	58～60HRC	Standard	0 −0.005	+0.02 0
CPZ—L	SKD61 equivalent	48～52HRC	Precision	0 −0.005	+0.01 0
CPV—L	SKH51 equivalent	58～60HRC	Precision	0 −0.005	+0.01 0
CPM—L	SKH51 equivalent	58～60HRC	Extra Precision	0 −0.003	+0.01 0

■ Standard Precision Type

H	Part Number Type	D	L 0.01mm increments
2	CPX—L CPH—L CPV—L	0.3	7.00～ 60.00
		0.4	
		0.5	
3		0.6	
		0.7	
		0.8	
		0.9	
		1	
		1.1	
		1.2	
		1.3	
		1.4	7.00～100.00
		1.5	
4	CPD—L CPX—L CPP—L CPH—L CPZ—L CPV—L	1.6	
		1.7	
		1.8	
		1.9	
		2	
5		2.5	
6		3	
7		3.5	7.00～120.00
		4	
8		4.5	
		5	7.00～120.00
9		5.5	CPH—L, CPV—L only 7.00～150.00
		6	
10		6.5	8.00～120.00
		7	
11		8	
15		10	CPH—L, CPV—L only 8.00～150.00
18		13	
21		16	
25		20	

■ Extra Precision Type

H	Part Number Type	D	L 0.01mm increments
2	CPM—L	0.5	7.00～ 60.00
		0.6	
		0.7	
		0.8	
		0.9	
3		1	
		1.1	
		1.2	
		1.3	
		1.4	
		1.5	
4		1.6	
		1.7	7.00～100.00
		1.8	
		1.9	
		2	
5		2.5	
6		3	
7		3.5	
		4	
8		4.5	
		5	
9		5.5	
		6	
10		6.5	
		7	
11		8	8.00～100.00
15		10	
18		13	

Order — Part Number — L
CPD—L1.6 — 72.35

Days to Ship — Quotation

Price — Quotation

Alterations — Part Number — L — (KC・WKC…etc.)
CPD—L1.6 — 72.35 — HC3.0
CPM—L3 — 8.00 — TC2.0

Alteration details P.395

Alterations	Code	Spec.	1Code
KC 0 −0.01	KC	Single flat cutting D/2≦KC＜H/2 D≧0.6	Quotation
WKC 0 −0.01	WKC	Two flats cutting D/2≦WKC＜H/2 D≧0.6	
KAC KBC 0 −0.01	KAC KBC	Varied width parallel flats cutting D/2≦KAC＜H/2 KBC=0.1mm increments only D≧0.6 KAC＜KBC＜H/2	
RKC RKC 0 −0.01	RKC	Two flats (right angled) cutting D/2≦RKC＜H/2 D≧0.6	
DKC DKC 0 −0.01	DKC	Three flats cutting D/2≦DKC＜H/2 D≧0.6	
SKC SKC 0 −0.01	SKC	Four flats cutting D/2≦SKC＜H/2 D≧0.6	
AG°±0.5 0° KGC KGC 0 −0.01	KGC	Two flats (angled) cutting D/2≦KGC＜H/2 D≧0.6 0＜AG＜360 AG=1° increments	
120° 120° KTC 0 −0.01	KTC	Three flats cutting at 120° D/2≦KTC＜H/2 D≧0.6	

About Designation Unit for Key Flat Cutting

(1)To align the key flat with the shaft diameter
Unit of designation 0.05mm increments possible

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

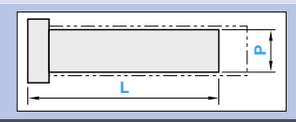
Alterations	Code	Spec.	1Code
H HC 0 −0.3	HC	Head diameter change D≧0.3 HC=0.1mm increments D≦HC＜H In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	Quotation
H HCC 0 −0.02	HCC	Head diameter change (precision) HCC=0.1mm increments D+0.5≦HCC＜H−0.3, D≧0.6	
TC 0 −0.02 4	TC	Head thickness change TC=0.1mm increments (Dimension L remains unchanged.) 4−TC≦Lmax.−L D: 0.3≦D＜0.8 / 0.8≦D≦20; TC: 2.0≦TC＜4.0 / 1.5≦TC＜4.0	
	TRN	Relief under the head (No need for plate chamfering) D≧0.6	
A15 8	NHC	Numbering on the head How to order P.396 Available when H≧2 Combination with SKC not available.	
L T	LKC	L dimension tolerance alteration L +0.01..., +0.005 0 (L designation in 0.005mm increments possible) Available when 1.5≦D≦5 Available when CPM—L	
T GS L GB	GVC	Gas vent machining GS・GB=1mm increments 2≦GS≦10 GS+2≦GB≦30 Available when D≧2 L−GB≧10 How to order P.396	

Similar products with GVC alteration "Gas release core pins" P.407～410

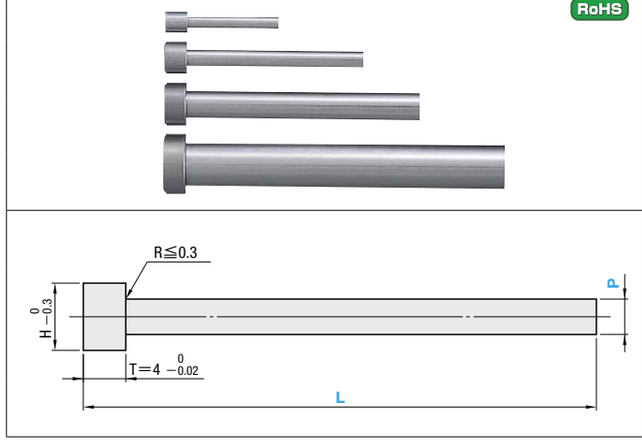
Dies Steel
SKD61 equivalent
High Speed Steel
SKH51 equivalent

STRAIGHT CORE PINS

—SHAFT DIAMETER (P) DESIGNATION • L DIMENSION DESIGNATION TYPE—



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



Type	M	H	Group	T P	T L
CPDB—L	SKD61 equivalent	48～52HRC	Standard	−0.01 −0.02	+0.02 0
CPXB—L	SKH51 equivalent	58～60HRC	Standard	−0.01 −0.02	+0.02 0
CPPB—L	SKD61 equivalent	48～52HRC	Standard	0 −0.005	+0.02 0
CPHB—L	SKH51 equivalent	58～60HRC	Standard	0 −0.005	+0.02 0
CPZB—L	SKD61 equivalent	48～52HRC	Precision	0 −0.005	+0.01 0
CPVB—L	SKH51 equivalent	58～60HRC	Precision	0 −0.005	+0.01 0
CPMB—L	SKH51 equivalent	58～60HRC	Extra Precision	0 −0.003	+0.01 0

■ Standard Precision Type

H	Part Number Type	Part Number No.	L 0.01mm increments	P Standard 0.01mm increments	P Precision 0.005mm increments
2	CPXB—L CPHB—L CPVB—L	0.5	7.00～ 60.00	0.30～ 0.49	0.300～ 0.495
		0.6	7.00～100.00	0.50～ 0.59	0.500～ 0.595
3		1	7.00～100.00	0.60～ 0.99	0.600～ 0.995
		1.5	7.00～100.00	1.00～ 1.49	1.000～ 1.495
4		2	7.00～100.00	1.50～ 1.99	1.500～ 1.995
5		2.5	7.00～100.00	2.00～ 2.49	2.000～ 2.495
6		3	7.00～100.00	2.50～ 2.99	2.500～ 2.995
7	CPDB—L CPXB—L CPPB—L CPHB—L CPZB—L CPVB—L	3.5	7.00～120.00	3.00～ 3.49	3.000～ 3.495
		4	7.00～120.00	3.50～ 3.99	3.500～ 3.995
8		4.5	7.00～120.00	4.00～ 4.49	4.000～ 4.495
		5	7.00～120.00	4.50～ 4.99	4.500～ 4.995
9		5.5	CPHB—L CPVB—L only 7.00～150.00	5.00～ 5.49	5.000～ 5.495
		6	CPHB—L CPVB—L only 7.00～150.00	5.50～ 5.99	5.500～ 5.995
10		6.5	8.00～120.00	6.00～ 6.49	6.000～ 6.495
		7	8.00～120.00	6.50～ 6.99	6.500～ 6.995
11		8	8.00～120.00	7.00～ 7.99	7.000～ 7.995
15		10	CPHB—L CPVB—L only 8.00～150.00	8.00～ 9.99	8.000～ 9.995
18		13	CPHB—L CPVB—L only 8.00～150.00	10.00～12.99	10.000～12.995
21		16	CPHB—L CPVB—L only 8.00～150.00	13.00～15.99	13.000～15.995
25		20	CPHB—L CPVB—L only 8.00～150.00	16.00～19.99	16.000～19.995

■ Extra Precision Type

H	Part Number Type	Part Number No.	L 0.01mm increments	P 0.001mm increments
2	CPMB—L	0.5	7.00～ 60.00	0.300～ 0.499
3		0.6	7.00～100.00	0.500～ 0.599
		1	7.00～100.00	0.600～ 0.999
		1.5	7.00～100.00	1.000～ 1.499
4		2	7.00～100.00	1.500～ 1.999
5		2.5	7.00～100.00	2.000～ 2.499
6		3	7.00～100.00	2.500～ 2.999
7		3.5	7.00～100.00	3.000～ 3.499
		4	7.00～100.00	3.500～ 3.999
8		4.5	7.00～100.00	4.000～ 4.499
		5	7.00～100.00	4.500～ 4.999
9		5.5	7.00～100.00	5.000～ 5.499
		6	7.00～100.00	5.500～ 5.999
10		6.5	8.00～100.00	6.000～ 6.499
		7	8.00～100.00	6.500～ 6.999
11		8	8.00～100.00	7.000～ 7.999
15		10	8.00～100.00	8.000～ 9.999
18		13	8.00～100.00	10.000～12.999

Order — Part Number — L — P
CPPB—L3 — 35.72 — P2.77

Days to Ship — Quotation

Price — Quotation

Alterations — Part Number — L — P — (KC・WKC…etc.)
CPPB—L3 — 35.72 — P2.70 — KC1.5
CPMB—L3 — 8.00 — P2.990 — TC3.0

Alteration details P.395

Alterations	Code	Spec.	1Code
	KC	Single flat cutting P/2≦KC＜H/2 P≧0.6	Quotation
	WKC	Two flats cutting P/2≦WKC＜H/2 P≧0.6	Quotation
	KAC KBC	Varied width parallel flats cutting P/2≦KAC＜H/2 KBC=0.1mm increments only P≧0.6 KAC＜KBC＜H/2	Quotation
	RKC	Two flats (right angled) cutting P/2≦RKC＜H/2 P≧0.6	Quotation
	DKC	Three flats cutting P/2≦DKC＜H/2 P≧0.6	Quotation
	SKC	Four flats cutting P/2≦SKC＜H/2 P≧0.6	Quotation
	KGC	Two flats (angled) cutting P/2≦KGC＜H/2 P≧0.6 0＜AG＜360 AG=1° increments	Quotation
	KTC	Three flats cutting at 120° P/2≦KTC＜H/2, P≧0.6	Quotation

About Designation Unit for Key Flat Cutting

(1)To align the key flat with the shaft diameter
Unit of designation
0.005mm increments possible
Precision 0.0025mm increments possible
Extra precision type 0.0005mm increments possible

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

Alterations	Code	Spec.	1Code
	HC	Head diameter change P≦HC＜H HC=0.1mm increments P≧0.3 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 P+0.5≦HCC＜H−0.3, P≧0.6	Quotation
	TC	Head thickness change TC=0.1mm increments (Dimension L remains unchanged.) 4−TC≦Lmax.−L P: 0.30≦P＜0.80 TC: 2.0≦TC＜4.0; 0.80≦P≦19.995 TC: 1.5≦TC＜4.0	Quotation
	TRN	Relief under the head (No need for plate chamfering) Available when P≧0.6	Quotation
	NHC	Numbering on the head How to order P.396 Available when H≧2 Combination with SKC not available.	Quotation
	LKC	L dimension tolerance alteration L +0.01 0 ...,+0.005 0 (L designation in 0.005mm increments possible) Available when 1.5≦P≦5 Available when CPMB—L	Quotation
	GVC	Gas vent machining GS・GB=1mm increments Available when P≧2 2≦GS≦10 GS+2≦GB≦30 L−GB≧10 How to order P.396	Quotation

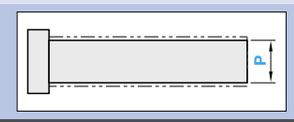
Similar products with GVC alteration "Gas release core pins" P.407～410

Dies Steel
SKD61 equivalent

High Speed Steel
SKH51 equivalent

STRAIGHT CORE PINS

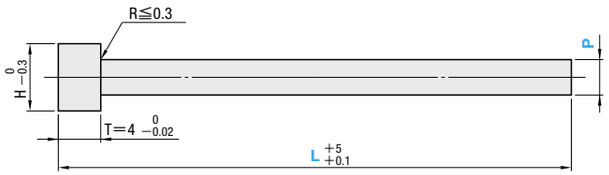
—SHAFT DIAMETER (P) DESIGNATION (0.01mm INCREMENTS) • L DIMENSION SELECTION TYPE—



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

RoHS

Type	M	H	T P
CPD—G	SKD61 equivalent	48～52HRC	−0.01 −0.02
CPX—G	SKH51 equivalent	58～60HRC	
CPP—G	SKD61 equivalent	48～52HRC	0 −0.005
CPH—G	SKH51 equivalent	58～60HRC	



H	Part Number Type	Part Number No.	L	P 0.01mm increments
2	CPX—G CPH—G	0.5	60	0.30～ 0.49
3		0.6		0.50～ 0.59
		1		0.60～ 0.99
		1.5		1.00～ 1.49
4		2		1.50～ 1.99
5		2.5		2.00～ 2.49
6		3		2.50～ 2.99
7	CPD—G	3.5		3.00～ 3.49
		4	60	3.50～ 3.99
8	CPX—G	4.5		4.00～ 4.49
		5		4.50～ 4.99
9	CPP—G	5.5		5.00～ 5.49
		6		5.50～ 5.99
10	CPH—G	6.5	100	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		16.00～19.99

Order

Part Number	L	P
CPD—G3	60	P2.77

Days to Ship: Quotation

Price: Quotation

Alterations

Part Number	L	P	(KC・WKC…etc.)
CPD—G3	60	P2.70	KC1.5

Alteration details P.395

Alterations	Code	Spec.	1Code
KC 0 −0.01	KC	Single flat cutting P/2≦KC＜H/2 P≧0.6	Quotation
WKC 0 −0.01	WKC	Two flats cutting P/2≦WKC＜H/2 P≧0.6	
KAC KBC 0 −0.01	KAC KBC	Varied width parallel flats cutting P/2≦KAC＜H/2 KBC=0.1mm increments only P≧0.6 KAC＜KBC＜H/2	
RKC RKC 0 −0.01	RKC	Two flats (right angled) cutting P/2≦RKC＜H/2 P≧0.6	
DKC DKC DKC 0 −0.01	DKC	Three flats cutting P/2≦DKC＜H/2 P≧0.6	
SKC SKC 0 −0.01	SKC	Four flats cutting P/2≦SKC＜H/2 P≧0.6	
AG° ±0.5 0° KGC NGC 0 −0.01	KGC	Two flats (angled) cutting P/2≦KGC＜H/2 P≧0.6, 0＜AG＜360 AG=1° increments	
120° 120° 120° KTC 0 −0.01	KTC	Three flats cutting at 120° P/2≦KTC＜H/2, P≧0.6	

About Designation Unit for Key Flat Cutting

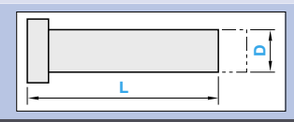
(1)To align the key flat with the shaft diameter
Unit of designation
0.005mm increments possible

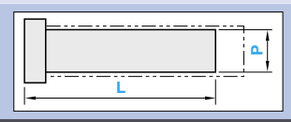
(2)To designate arbitrary key flat dimensions
Unit of designation 0.1mm

Alterations	Code	Spec.	1Code
H HC 0 −0.3	HC	Head diameter change HC=0.1mm increments P≦HC＜H, P≧0.3 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 −0.02	HCC	Head diameter change (precision) HCC=0.1mm increments P+0.5≦HCC＜H−0.3, P≧0.6	
TC 0 −0.02 4	TC	Head thickness change TC=0.1mm increments (Dimension L becomes shorter by 4—TC) 4—TC≦Lmax.—L P: 0.30≦P＜0.80 → TC: 2.0≦TC＜4.0; 0.80≦P≦19.99 → 1.5≦TC＜4.0	
	TRN	Relief under the head (No need for plate chamfering) Available when P≧0.6	
A15 8	NHC	Numbering on the head How to order P.396 Available when H≧2 Combination with SKC not available.	

STRAIGHT CORE PINS

—SHAFT DIAMETER (D) SELECTION／SHAFT DIAMETER (P) DESIGNATION • L DIMENSION DESIGNATION • SHAFT DIAMETER TOLERANCE $^{-0.01}_{-0.02}$ ／$^{0}_{-0.005}$ TYPE—

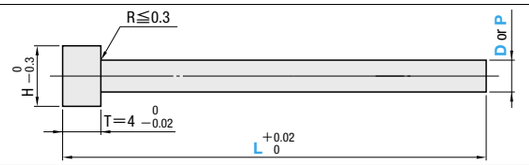




Non JIS material definition is listed on P.1351 - 1352

RoHS

Type		M	H	T	
Shaft diameter (D) selection	Shaft diameter (P) designation			D or P	L
CPN—L	CPNB—L	NAK80	37～43HRC	$^{-0.01}_{-0.02}$	$^{+0.02}_{0}$
CPF—L	CPFB—L	DH2F	38～42HRC		
CPA—L	CPAB—L	MAS1C	50～54HRC		
CPK—L	CPKB—L	NAK80	37～43HRC	$^{0}_{-0.005}$	
CPG—L	CPGB—L	DH2F	38～42HRC		
CPY—L	CPYB—L	MAS1C	50～54HRC		
CPW—L	CPWB—L	SUS440C	56～60HRC		



MAS1C will be discontinued when stocked materials are finished.

■Shaft diameter (D) selection type

H	Part Number Type	D	L 0.01mm increments
3	CPW—L	0.6	7.00～100.00
		0.7	
	CPN—L CPF—L CPA—L (D≦4) CPK—L CPG—L CPY—L (D≦4) CPW—L	0.8	
		0.9	
		1	
		1.1	
		1.2	
		1.3	
4		1.4	
		1.5	
		1.6	
		1.7	
		1.8	
		1.9	
		2	
5		2.5	
6		3	
7		3.5	7.00～120.00
		4	
8		4.5	
		5	
9		5.5	
		6	
10		6.5	8.00～120.00
		7	
11		8	
15		10	
18		13	
21		16	

■Shaft diameter (P) designation type

H	Part Number Type	No.	L 0.01mm increments	P 0.01mm increments
3	CPWB—L	1	7.00～100.00	0.60～ 0.79
				0.80～ 0.99
		1.5		1.00～ 1.49
4	CPNB—L	2		1.50～ 1.99
5		2.5		2.00～ 2.49
6	CPFB—L	3		2.50～ 2.99
7	CPAB—L (P≦3.99)	3.5	7.00～120.00	3.00～ 3.49
		4		3.50～ 3.99
8	CPKB—L	4.5		4.00～ 4.49
		5		4.50～ 4.99
9	CPGB—L	5.5		5.00～ 5.49
		6		5.50～ 5.99
10	CPYB—L (P≦3.99)	6.5	8.00～120.00	6.00～ 6.49
		7		6.50～ 6.99
11	CPWB—L	8		7.00～ 7.99
15		10		8.00～ 9.99
18		13		10.00～12.99
21		16		13.00～15.99

Order

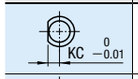
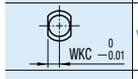
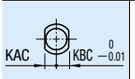
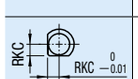
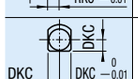
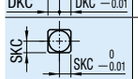
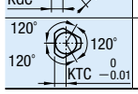
- Shaft diameter (D) selection type: Part Number — L
  CPW—L1.6 — 72.35
- Shaft diameter (P) designation type: Part Number — L — P
  CPKB—L3 — 35.72 — P2.77

Days to Ship: Quotation

Alterations

Part Number — L — P — (KC・WKC…etc.)
CPG —L1.6 — 72.35 — HC 3.0
CPKB—L3 — 35.72 — P2.77 — TC 2.0

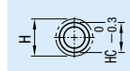
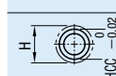
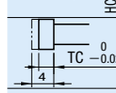
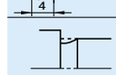
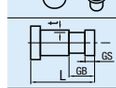
Alteration details P.395

Alterations	Code	Spec.	1Code
	KC	Single flat cutting (D or P)/2≦KC＜H/2	Quotation
	WKC	Two flats cutting (D or P)/2≦WKC＜H/2	
	KAC KBC	Varied width parallel flats cutting (D or P)/2≦KAC＜H/2 KBC=0.1mm increments only KAC＜KBC＜H/2	
	RKC	Two flats (right angled) cutting (D or P)/2≦RKC＜H/2	
	DKC	Three flats cutting (D or P)/2≦DKC＜H/2	
	SKC	Four flats cutting (D or P)/2≦SKC＜H/2	
	KGC	Two flats (angled) cutting (D or P)/2≦KGC＜H/2 0＜AG＜360 AG=1° increments	
	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
0.05mm increments possible
Shaft diameter (P) designation
0.005mm increments

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

Alterations	Code	Spec.	1Code
	HC	Head diameter change HC=0.1mm increments (D or P)≦HC＜H CPY—L/CPYB—L:(D or P)+0.5≦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 (Dimension L remains unchanged.) 4—TC≦Lmax.—L D or P: 0.6≦D or P＜0.8 / 0.8≦D or P≦16; TC: 2.0≦TC＜4.0 / 1.5≦TC＜4.0	
	TRN	Relief under the head (No need for plate chamfering)	
	NHC	Numbering on the head How to order P.396 Available when H≧2 Combination with SKC not available.	
	GVC	Gas vent machining GS・GB=1mm increments 2≦GS≦10 GS+2≦GB≦30 Available when D or P≧2 L—GB≧10 How to order P.396	

Similar products with GVC alteration "Gas release core pins" P.409

SKD61 equivalent
SKH51 equivalent

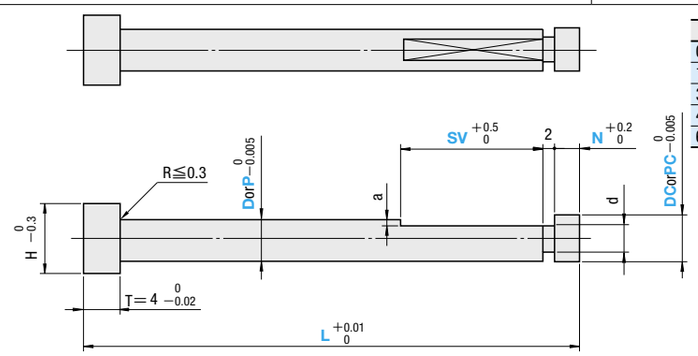
PRECISON GAS RELEASE STRAIGHT CORE PINS

—SHAFT DIAMETER (D) SELECTION／(P) 0.005mm DESIGNATION TYPE—

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

RoHS

Type		M	H
Shaft diameter (D) selection	Shaft diameter (P) designation		
GV—CPZ—L	GV—CPZB—L	SKD61 equivalent	48～52HRC
GV—CPV—L	GV—CPVB—L	SKH51 equivalent	58～60HRC



D	P	d	a
0.5～0.9	0.500～ 0.995	(D or P)—0.1	0.05
1 ～2.5	1.000～ 2.495	(D or P)—0.2	0.10
3 ～4	2.500～ 3.995	(D or P)—0.4	0.20
4.5・5	4.000～ 4.995	(D or P)—0.6	0.30
6 ～13	5.000～12.995	(D or P)—1.0	0.50

■Shaft diameter (D) selection type

H	Part Number Type	Part Number D	L 0.01mm increments	DC 0.005mm increments	N 0.1mm increments	SV 0.5mm increments
2	GV—CPV—L	0.5	15.00～ 60.00			
3	GV—CPZ—L GV—CPV—L	0.6 0.7 0.8 0.9 1 1.2 1.5	15.00～100.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
4	GV—CPZ—L GV—CPV—L	2	15.00～100.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
5	GV—CPZ—L GV—CPV—L	2.5	15.00～100.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
6	GV—CPZ—L GV—CPV—L	3	15.00～100.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
7	GV—CPZ—L GV—CPV—L	3.5 4	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
8	GV—CPZ—L GV—CPV—L	4.5 5	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
9	GV—CPZ—L GV—CPV—L	6	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
10	GV—CPZ—L GV—CPV—L	7	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
11	GV—CPZ—L GV—CPV—L	8	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
15	GV—CPZ—L GV—CPV—L	10	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
18	GV—CPZ—L GV—CPV—L	13	15.00～120.00	(D−0.08)≦DC≦D When DC=D, designation of DCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0

■Shaft diameter (P) designation type

H	Part Number Type	Part Number No.	L 0.01mm increments	P 0.005mm increments	PC 0.005mm increments	N 0.1mm increments	SV 0.5mm increments
3	GV—CPVB—L	0.6	15.00～100.00	0.500～ 0.595	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
3	GV—CPVB—L	1	15.00～100.00	0.600～ 0.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
3	GV—CPVB—L	1.5	15.00～100.00	1.000～ 1.495	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
4	GV—CPVB—L	2	15.00～100.00	1.500～ 1.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
5	GV—CPVB—L	2.5	15.00～100.00	2.000～ 2.495	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
6	GV—CPVB—L	3	15.00～100.00	2.500～ 2.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.3～10.0 L−(2+SV+N)≧10	2.0～50.0
7	GV—CPVB—L	3.5	15.00～120.00	3.000～ 3.495	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
7	GV—CPVB—L	4	15.00～120.00	3.500～ 3.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
8	GV—CPVB—L	4.5	15.00～120.00	4.000～ 4.495	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
8	GV—CPVB—L	5	15.00～120.00	4.500～ 4.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
9	GV—CPVB—L	6	15.00～120.00	5.000～ 5.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
10	GV—CPVB—L	7	15.00～120.00	6.000～ 6.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
11	GV—CPVB—L	8	15.00～120.00	7.000～ 7.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
15	GV—CPVB—L	10	15.00～120.00	8.000～ 9.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0
18	GV—CPVB—L	13	15.00～120.00	10.000～12.995	(P−0.08)≦PC≦P When PC=P, designation of PCX.	0.5～15.0 L−(2+SV+N)≧10	2.0～60.0

Order

Part Number	L	P	DC(DCX) PC(PCX)	N	SV
GV—CPZ—L3	18.36		DC2.955	N2	SV4
GV—CPVB—L1	20.05	P0.995	PCX	N2	SV4

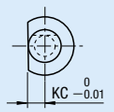
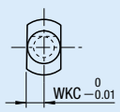
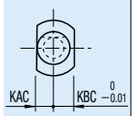
Days to Ship: Quotation

Price: Quotation

Alterations

Part Number	L	P	DC(DCX)・PC(PCX)	N	SV(SVC)	(KC・WKC…etc.)
GV—CPV—L3	18.36		DC2.990	N2	SVC	WKC1.5
GV—CPZB—L1	20.05	P0.995	PCX	N2	SV4	TRN

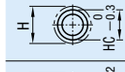
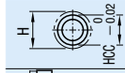
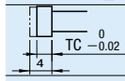
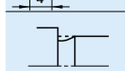
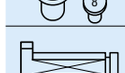
Alteration details P.395

Alterations	Code	Spec.	1Code
	KC	Single flat cutting (D or P)/2≦KC＜H/2 (D or P)≧0.6	Quotation
	WKC	Two flats cutting (D or P)/2≦WKC＜H/2 (D or P)≧0.6	
	KAC KBC	Varied width parallel flats cutting (D or P)/2≦KAC＜H/2 KBC=0.1mm increments only (D or P)≧0.6 KAC＜KBC＜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
0.05mm increments possible
Shaft diameter (P) designation
0.0025mm increments possible

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

Alterations	Code	Spec.	1Code
	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, (D or P)≧0.6	
	TC	Head thickness change TC=0.1mm increments (Dimension L remains unchanged.) 4−TC≦Lmax.−L D or P: 0.5≦D or P＜0.8 / 0.8≦D or P≦13 TC: 2.0≦TC＜4.0 / 1.5≦TC＜4.0	
	TRN	Relief under the head (No need for plate chamfering) (D or P)≧0.6	
	NHC	Numbering on the head How to order P.396 ※Available when H≧2	
	SVC	Extend the flat section SV to the bottom. ※(D or P)＜1 ⋯ L=Applicable until 60 ※When used concurrently with key flat cutting, SVC processing is done perpendicularly to the key flat surface.	

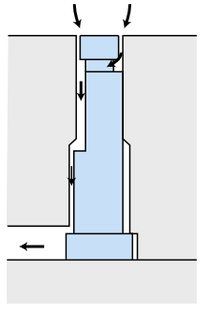
■ Characteristics

For the molds using the resin which generates gas easily, this core pin performs good effect of gas release from inside cavity through the clearance.

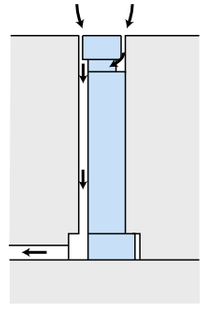
Example

1. Assemble at the surface of product to release gas.
2. Assemble to the place where the gas gathers in the runner part, and release gas.

Gas is released from the clearance.
Please set clearance to include the way of gas-flow according to resin and molding condition (Designate on DC・PC)
※ → Gas flow



＜Alteration SVC＞
Please use SVC alteration when processing plate by wire cutting.

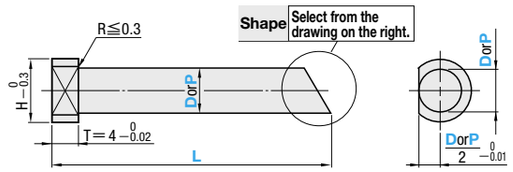


＜Alteration WKC＞

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



Type		M	H	T D or P
Shaft diameter (D) selection	Shaft diameter (P) designation			
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									
					CPX□□・CPP□□・CPH□□					CPD□□				
	Type	Shape	D	L	1G	2G・1R・3R	1Z	2R・4R	5R	1G	2G・1R・3R	1Z	2R・4R	5R
3	CPD CPX (D −0.01 −0.02) CPP CPH (D 0 −0.005)	1G 1R 2R 3R 4R	1	15.01～100.00										
			1.2											
			1.5											
4			2											
5			2.5											
6			3											
7		1G 2G 1Z 1R 2R 3R 4R 5R	3.5	15.01～120.00										
			4											
8			4.5											
			5	15.01～150.00										
9			5.5											
			6											
10			6.5											
			7											
11			8											
15			10											
18			13											
21			16											

Quotation

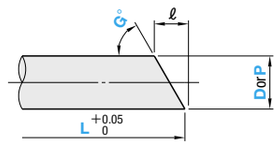
■Shaft Diameter (P) Designation (0.01mm increments) Type

H	Part Number			0.01mm increments		U/Price 1～4									
						CPXB□□・CPPB□□・CPHB□□					CPDB□□				
	Type	Shape	No.	L	P	1G	2G・1R・3R	1Z	2R・4R	5R	1G	2G・1R・3R	1Z	2R・4R	5R
3	CPDB CPXB (P −0.01 −0.02) CPPB CPHB (P 0 −0.005)	1G 1R 2R 3R 4R	1.5	15.01～100.00	1.00～ 1.49										
4			2		1.50～ 1.99										
5		1G 2G 1Z 1R 2R 3R 4R 5R	2.5		2.00～ 2.49										
6			3		2.50～ 2.99										
7			3.5	15.01～120.00	3.00～ 3.49										
			4		3.50～ 3.99										
8			4.5		4.00～ 4.49										
			5	15.01～150.00	4.50～ 4.99										
9			5.5		5.00～ 5.49										
			6		5.50～ 5.99										
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										

Quotation

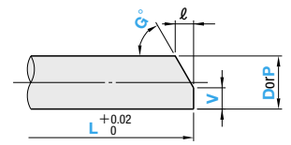
Shape

1G (Slope processing)



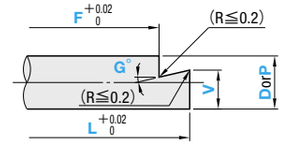
- L− ℓ ≧15
- ℓ =Ptan(90−G)
- 45° ≦G<90°

2G (Slope part- processing)



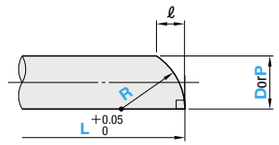
- L− ℓ ≧15
- ℓ =(P−V)tan(90−G)
- 45° ≦G<90°
- 1.5≦V<P

1Z (Z groove)



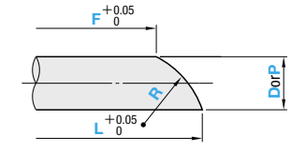
- 0° ≦G≦45°
- 1.5≦V<P
- L−F≦10
- V−(L−F)tanG≧1
- ⊗ R designation not available.
- F≧15

1R (Outer R processing)



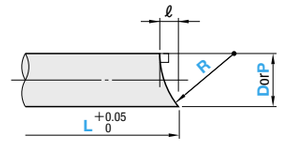
- L−R≧15
- ℓ =R−√(R²−P²)
- P≦R≦15

2R (Outer R processing・F designation)



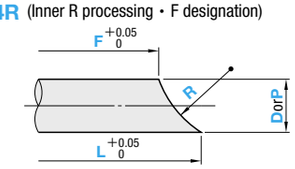
- F≧15
- P<R≦15
- L−F>R−√(R²−P²)

3R (Inner R processing)



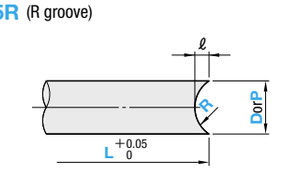
- L− ℓ ≧15
- ℓ =R−√(R²−P²)
- P≦R≦15

4R (Inner R processing・F designation)



- F≧15
- P<R≦15
- L−F>R−√(R²−P²)

5R (R groove)



- L− ℓ ≧15
- ℓ =R−√(R²−(P/2)²)
- 1.2P≦R≦2P

C chamfered　G Cone　T Tapered　R R chamfered　B Spherical processed

Refer to P.415～424 for the shape of this type.

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

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

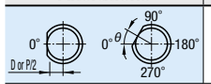
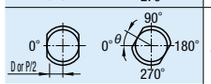
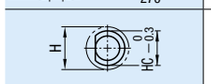
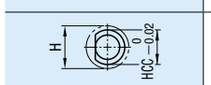
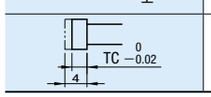
⊗ **NHC** Express service not available

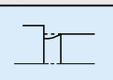
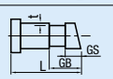
Price Quotation

■Unit of designation

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

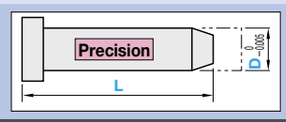
Alteration details P.395

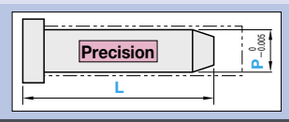
Alterations	Code	Spec.	1Code
	AKC	Head angle alteration AKC=1° increments 0<AKC<360 No need to designate AKC0	Quotation
	AWC	Head angle alteration (2 planes) AWC=1° increments 0≦AWC<360	
	HC	Head diameter change HC=0.1mm increments (D or P)≦HC<H In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	
	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	

Alterations	Code	Spec.	1Code
	TRN	Relief under the head (No need for plate chamfering)	Quotation
	NHC	Numbering on the head How to order P.396	
	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	

PRECISION STRAIGHT CORE PINS WITH TIP PROCESS

—SHAFT DIAMETER (D) SELECTION TYPE／SHAFT DIAMETER (P) DESIGNATION (0.005mm INCREMENTS) TYPE—





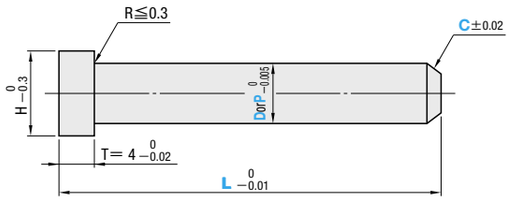
Non JIS material definition is listed on P.1351 - 1352

RoHS

M H	Part Number		
	Type		Shape
	Shaft diameter (D) selection	Shaft diameter (P) designation	
SKD61 equivalent 48～52HRC	CPZL	CPZBL	C G T R B
SKH51 equivalent 58～60HRC	CPVL	CPVBL	

Shape (Tip shape)

Shape C
(C chamfered)



C···0.05mm increments

$0.1 \leqq C \leqq \frac{(D \text{ or } P)-0.2}{2}$

and

L—C≧9.5

※When GVC code is used ℓ=C

Shape G
(Cone)

K···0.5° increments

20≦K≦60

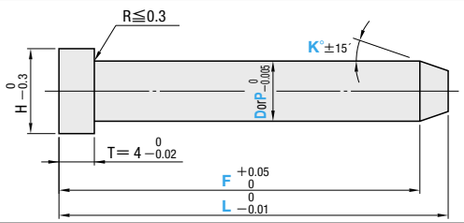
and

(L—ℓ)≧10

ℓ calculation formula

$\ell = \frac{(D \text{ or } P)}{2\tan K}$

Shape T
(Tapered)



F···0.01mm increments

F≧10.00

and

$0.3 \leqq (L-F) \leqq \frac{L}{2}$

and

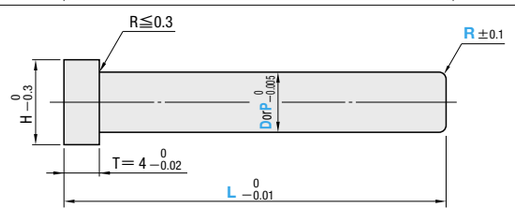
$\frac{(D \text{ or } P)}{2} - (L-F)\tan K \geqq 0.1$

K···1° increments

1≦K≦45

※When GVC code is used ℓ=L—F

Shape R
(R chamfered)



R···0.1mm increments

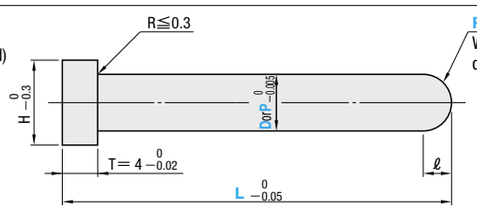
$0.2 \leqq R \leqq \frac{(D \text{ or } P)-0.2}{2}$

and

L—R≧10

※When GVC code is used ℓ=R

Shape B
(Spherical processed)



R (SR)±0.1

When R=(D or P)/2
designate RQR

When R＞(D or P)/2
R···0.1mm increments
(D or P)/2＜R≦1.5×(D or P)
{(D or P)≧4 ⋯▸ (D or P)/2＜R≦3×(D or P)}
However, R≦32 and L—ℓ≧10

ℓ calculation formula

$\ell = R - \sqrt{R^2 - \frac{(D^2 \text{ or } P^2)}{4}}$

■Shaft diameter (D) selection type

H	Part Number Type	Shape	D	L 0.01mm increments	Shape (Tip size)
3	CPVL		0.6	10.00～60.00	
	CPZL		0.8	10.00 ≀ 100.00	Shape C C···0.05mm increments
			0.9		
			1		
			1.1		
			1.2		
			1.3		Shape G K···0.5° increments
			1.4		
		C	1.5		
			1.6		Shape T F···0.01mm increments K···1° increments
4			1.7		
		G	1.8		
			1.9		
			2		Shape R R···0.1mm increments
5		T	2.5		
6			3		Shape B When R=D/2 designate RQR When R＞D/2 R···0.1mm increments
7	CPVL		3.5	10.00 ≀ 120.00	
		R	4		Refer to the working limits shown in the drawing.
8			4.5		
			5		
9		B	5.5		
			6		
10			6.5		
			7		
11			8		
15			10		
18			13		
21			16		
25			20		

■Shaft diameter (P) designation type

H	Part Number Type	Shape	No.	L 0.01mm increments	P 0.005mm increments	Shape (Tip size)
3	CPVBL		0.8	10.00～60.00	0.600～ 0.795	
	CPZBL		1	10.00 ≀ 100.00	0.800～ 0.995	Shape C C···0.05mm increments
			1.5		1.000～ 1.495	
4			2		1.500～ 1.995	Shape G K···0.5° increments
5		C	2.5		2.000～ 2.495	
6			3		2.500～ 2.995	Shape T F···0.01mm increments K···1° increments
7			3.5	10.00 ≀ 120.00	3.000～ 3.495	
		G	4		3.500～ 3.995	
8			4.5		4.000～ 4.495	Shape R R···0.1mm increments
		T	5		4.500～ 4.995	
9			5.5		5.000～ 5.495	Shape B When R=P/2 designate RQR When R＞P/2 R···0.1mm increments
		R	6		5.500～ 5.995	
10			6.5		6.000～ 6.495	
			7		6.500～ 6.995	
11		B	8		7.000～ 7.995	
15			10		8.000～ 9.995	Refer to the working limits shown in the drawing.
18			13		10.000～12.995	
21			16		13.000～15.995	
25			20		16.000～19.995	

Order

Part Number	L	P	Tip size (C・F・K・R)
CPZLC5	13.07		C0.3
CPVBLB7	67.00	P6.600	RQR

Price Quotation

Days to Ship Quotation

Alterations

Part Number	L	P	Tip size (C・F・K・R)	(KC・WKC⋯etc.)
CPZLC2	10.00		C0.5	HC3.0
CPVBLR10	17.00	P8.620	R1.5	HC10.6 — KTC4.5

Alteration details P.395

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 -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
0.05mm increments possible
Shaft diameter (P) designation
0.0025mm increments possible

(2)To designate arbitrary key flat dimensions

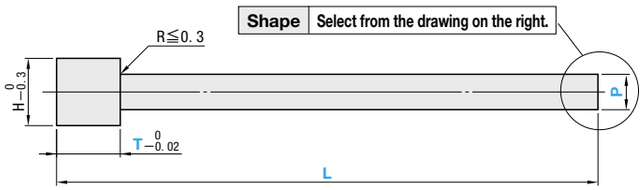
Unit of designation 0.1mm

Alterations	Code	Spec.	1Code
H HC 0 -0.3	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.	
H HCC 0 -0.02	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 (Dimension L remains unchanged.) 4—TC≦Lmax.—L	Quotation
	TRN	Relief under the head (No need for plate chamfering)	
A15 8	NHC	Numbering on the head How to order P.396 Available when H≧2 Combination with SKC not available.	
L GS GB	GVC	Gas vent machining GS・GB=1mm increments Available when (D or P)≧2 2+ℓ≦GS≦12 GS+2≦GB≦30 L—GB≧10 How to order P.396	

FREE DESIGNATION STRAIGHT CORE PINS WITH TIP PROCESS

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

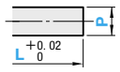
RoHS



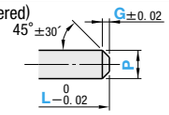
Type	Shape	M	H	T P
F—CPNE	S C G T R B	NAK80	37～43HRC	−0.01 −0.02
F—CPFE		DH2F	38～42HRC	
F—CPDE		SKD61 equivalent	48～52HRC	
F—CPHE		SKH51 equivalent	58～60HRC	
F—CPN		NAK80	37～43HRC	0 −0.005
F—CPF		DH2F	38～42HRC	
F—CPD		SKD61 equivalent	48～52HRC	
F—CPH		SKH51 equivalent	58～60HRC	

Shape (Tip shape)

S (Not processed)

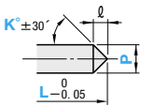


C (C chamfered)



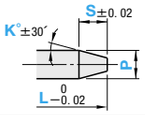
0.1≦G＜P/2
0.05mm increme
G≦L−10

G (Cone)



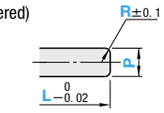
20≦K≦60
0.5° increments
L−$\frac{P}{2tanK}$≧10
ℓ=$\frac{P}{2tanK}$

T (Tapered)



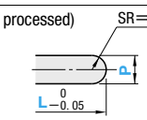
0.1≦S＜$\frac{P}{2tanK}$
S≦L−10 and S≦$\frac{L}{2}$
0.05mm increments
0＜K≦45
0.5° increments

R (R chamfered)



0.2≦R＜P/2
0.1mm increments
R≦L−10
The tip specified dimension Q has been changed to the specified dimension R.

B (Spherical processed)



L−$\frac{P}{2}$≧10

H	Part Number			0.01mm increments		T 0.1mm increments
	Type	Shape	No.	L	P	
5	F—CPNE F—CPFE F—CPDE F—CPHE F—CPN F—CPF F—CPD F—CPH	S C G T R B	5	12.00 ～ 100.00	2.00 ～ 3.00	1.5 ～ 20.0
6			6		2.50 ～ 4.00	
7			7		3.00 ～ 5.00	
8			8		4.00 ～ 6.00	
9			9		4.00 ～ 7.00	
10			10		5.00 ～ 8.00	
11			11		6.00 ～ 9.00	T≦L−10
12			12		7.00 ～ 10.00	
13			13		8.00 ～ 11.00	
15			15		10.00 ～ 13.00	

Order

Part Number	L	P	T	Tip size (K・S・G・Q)
F—CPDS 6	61.00	P2.85	T19.0	

Days to Ship: Quotation

Price: Quotation

Alterations

Part Number	L	P	T	Tip size (K・S・G・R(RTC))	(KC・WKC…etc.)
F—CPNS 8	30.2	P5.50	T19.0		HC6.5

Alteration details P.395

Alterations	Code	Spec.	1Code
KC 0 −0.01	KC	Single flat cutting P/2≦KC＜H/2	Quotation
WKC 0 −0.01	WKC	Two flats cutting P/2≦WKC＜H/2	
KAC KBC 0 −0.01	KAC KBC	Varied width parallel flats cutting P/2≦KAC＜H/2 KBC=0.1mm increments only KAC＜KBC＜H/2	
RKC 0 −0.01	RKC	Two flats (right angled) cutting P/2≦RKC＜H/2	
DKC 0 −0.01	DKC	Three flats cutting P/2≦DKC＜H/2	
SKC 0 −0.01	SKC	Four flats cutting P/2≦SKC＜H/2	
AG° ±0.5 0° KGC 0 −0.01	KGC	Two flats (angled) cutting P/2≦KGC＜H/2 0＜AG＜360 AG=1° increments	
120° 120° 120° 0 −0.01	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 0 −0.3	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.	Quotation
H HCC 0 −0.02	HCC	Head diameter change (precision) HCC=0.1mm increments P+0.5≦HCC＜H−0.3	
	TRN	Relief under the head (Makes plate chamfering unnecessary)	
A15 8	NHC	Numbering on the head How to order P.396 Combination with SKC not available.	
GS GB L	GVC	Gas vent machining GS・GB=1mm increments 2+(G・ℓ・S・R・SR)≦GS≦12 GS+2≦GB≦30 L−T−GB≧10 How to order P.396	
R T	RTC	Improves tip R tolerance R±0.1 ⋯› ±0.05 RTC=0.1mm increments 0.2≦RTC≦$\frac{P-0.2}{2}$ L−RTC≧10 Available for $\frac{P-0.2}{2}$ R only	
RC(SR)	RC	Tip R alteration RC=0.1mm increments P/2＜RC≦RCmax. and L−ℓ≧10 Shaft diameter P＜4 ⋯› RCmax.=1.5×P Shaft diameter P≧4 ⋯› RCmax.=3×P However, RC≦32 Available for Shape B only ℓ calculation formula ℓ=RC−$\sqrt{RC^2-\frac{P^2}{4}}$	

STRAIGHT CORE PINS WITH ENGRAVING

—CONCAVE CHARACTER TYPE—

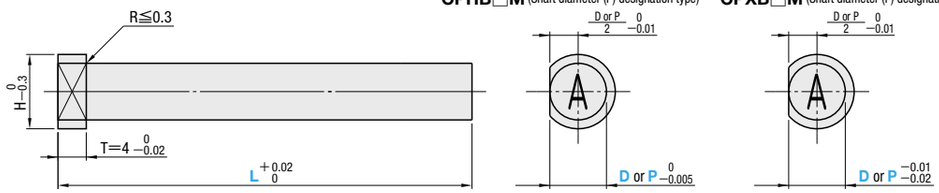
P.433 The convenient "Sequential numbering designation" is now available for bulk order！！

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

RoHS

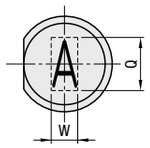
Type	M	H HRC	T D or P	T L
CPH□M	SKH51 equivalent	58～60	0 −0.005	+0.02 0
CPHB□M				
CPX□M			−0.01 −0.02	
CPXB□M				

CPH□M (Shaft diameter (D) selection type)
CPHB□M (Shaft diameter (P) designation type)
CPX□M (Shaft diameter (D) selection type)
CPXB□M (Shaft diameter (P) designation type)



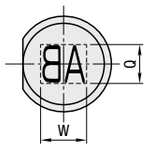
To decide the shape processing position, process a key flat cutting on the standard 0°.

1M (1 character)



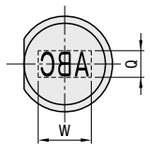
D or P	Q	W
0.60～ 0.79	0.4	0.2
0.80～ 0.99	0.6	0.3
1.00～ 1.29	0.8	0.4
1.30～ 1.49	1.0	0.5
1.50～ 1.99	1.2	0.6
2.00～ 2.49	1.5	0.8
2.50～ 3.49	2.0	1.0
3.50～ 4.49	3.0	1.5
4.50～ 5.49	3.5	2.0
5.50～10	4.5	2.5

2M (2 characters)



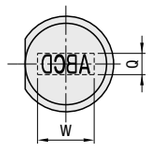
D or P	Q	W
1.00～ 1.19	0.5	0.7
1.20～ 1.39	0.6	0.8
1.40～ 1.59	0.7	0.9
1.60～ 1.79	0.7	1.0
1.80～ 1.99	0.8	1.1
2.00～ 2.29	0.8	1.2
2.30～ 2.99	1.0	1.3
3.00～ 3.99	1.5	2.0
4.00～ 4.99	2.0	2.6
5.00～ 5.99	2.5	3.3
6.00～ 7.99	3.0	3.9
8.00～10	4.0	5.2

3M (3 characters)



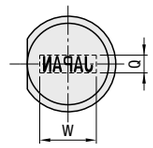
D or P	Q	W
1.50～ 1.69	0.6	1.0
1.70～ 1.99	0.6	1.2
2.00～ 2.39	0.7	1.4
2.40～ 2.79	0.8	1.7
2.80～ 3.09	0.8	1.8
3.10～ 4.49	1.0	2.1
4.50～ 5.49	1.5	3.2
5.50～ 6.99	2.0	4.2
7.00～10	2.5	5.3

4M (4 characters)



D or P	Q	W
1.80～ 1.89	0.5	1.2
1.90～ 2.19	0.5	1.4
2.20～ 2.49	0.6	1.6
2.50～ 2.79	0.6	1.8
2.80～ 3.09	0.7	2.0
3.10～ 3.59	0.8	2.2
3.60～ 3.89	0.8	2.4
3.90～ 5.49	1.0	2.9
5.50～ 6.99	1.5	4.4
7.00～10	2.0	5.8

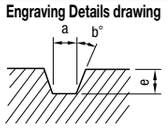
5M (5 characters)



D or P	Q	W
2.00～ 2.19	0.5	1.6
2.20～ 2.39	0.5	1.7
2.40～ 2.69	0.6	1.8
2.70～ 2.99	0.6	2.0
3.00～ 3.29	0.7	2.2
3.30～ 3.69	0.7	2.4
3.70～ 4.09	0.7	2.6
4.10～ 4.49	0.8	2.8
4.50～ 4.99	0.8	3.0
5.00～ 6.99	1.0	3.7
7.00～10	1.5	5.6

Core Pins	Finished products
Reverse character (Concave character)	Normal character (Convex embossed character)

Engraving Details drawing



Groove width(a)	(0.1×Q)±0.05
Drafts for pulling(b°)	30° ±2°
Groove depth(e)	0.05±0.02

Price **Quotation**

■Shaft diameter (D) selection type

H	Part Number Type	Character	D	L 0.01mm increments
3	CPH (D 0 −0.005) CPX (D −0.01 −0.02)	1M 2M 3M 4M 5M	0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.5 3	10.00～100.00
4				
5				
6				
7			3.5 4	10.00～120.00
8			4.5 5	10.00～120.00
9			5.5 6 6.5 7	CPH□M only 10.00～150.00
10				
11			8	
15			10	

Please place order by the character order of molding products.

Characters for engraving (Round Gothic type)

0 1 2 3 4 5 6 7 8 9
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z

Pay attention to the specification of Q・W, size of engraving character.(Details Left page)

Name	Slash	Greater	Less	Plus	Minus	Space
Characters for engraving	／	＞	＜	＋	－	⍽
Order code	¥	>	<	+	#	%

Name	Centered dot	Period
Characters for engraving	・	.
Order code	@	&

■Shaft diameter (P) designation 0.01mm increments type

H	Part Number Type	Character	No.	0.01mm increments L	P
3	CPHB (P 0 −0.005) CPXB (P −0.01 −0.02)	1M 2M 3M 4M 5M	0.8 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 8 10	10.00～100.00	0.60 ～ 0.79 0.80 ～ 0.99 1.00 ～ 1.49 1.50 ～ 1.99 2.00 ～ 2.49 2.50 ～ 2.99 3.00 ～ 3.49 3.50 ～ 3.99 4.00 ～ 4.49 4.50 ～ 4.99 5.00 ～ 5.49 5.50 ～ 5.99 6.00 ～ 6.49 6.50 ～ 6.99 7.00 ～ 7.99 8.00 ～ 9.99
4					
5					
6					
7				10.00～120.00	
8					
9				10.00～120.00	
10				CPHB□M only 10.00～150.00	
11					
15					

Please place order by the character order of molding products.

Characters for engraving (Round Gothic type)

0 1 2 3 4 5 6 7 8 9
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z

Pay attention to the specification of Q・W, size of engraving character.(Details Left page)

Name	Slash	Greater	Less	Plus	Minus	Space
Characters for engraving	／	＞	＜	＋	－	⍽
Order code	¥	>	<	+	#	%

Name	Centered dot	Period
Characters for engraving	・	.
Order code	@	&

Order — Part Number — L — P — Characters for engraving (0～9, A～Z ／＞＜＋－⍽・.) — Days to Ship **Quotation**

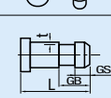
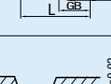
CPH4M6 — 35.00 — — ＞PS＜
CPHB5M8 — 30.00 — P7.30 — ABC5Z

Alterations — Part Number — L — P — Characters for engraving (0～9, A～Z ／＞＜＋－⍽・.) — (AKC・AWC…etc.)

CPHB5M8 — 30.00 — P7.30 — ABC5Z — AWC60

Alteration details P.395

Alterations	Code	Spec.	1Code
	AKC	Head angle alteration AKC=1° increments 0<AKC<360	Quotation
	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.	
	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 (Dimension L remains unchanged.) 4−TC≦Lmax.−L	

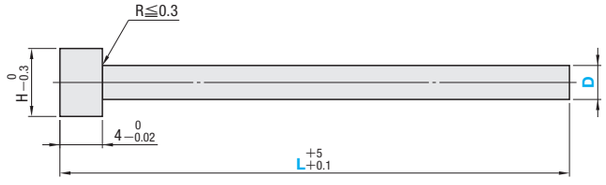
Alterations	Code	Spec.	1Code
	TRN	Relief under the head (Makes plate chamfering unnecessary)	Quotation
	NHC	Numbering on the head How to order P.396 Available when H≧2	
	GVC	Gas vent machining GS・GB=1mm increments 2≦GS≦10 GS+2≦GB≦30 L−GB≧10 Available when D or P≧2.00 How to order P.396	
	EC	Engraving depth alteration ・EC0.1 Engraving depth is changed from 0.05→0.1. ・EC0.2 Engraving depth is changed from 0.05→0.2. Refer to for shaft diameter selection range and character size (Q×P).	

CORE PIN BLANKS

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

RoHS

Part Number	M	H	T D
CPD	SKD61 equivalent	48～52HRC	$^{-0.01}_{-0.02}$
CPH	SKH51 equivalent	58～60HRC	$^{0}_{-0.005}$



Order — Part Number — L
CPD6 — 60

Days to Ship: Quotation

Price: Quotation

H	Part Number Type	D	L
3	CPD (SKD61 equivalent)	1	60
		1.1	
		1.2	
		1.3	
		1.4	
		1.5	
4		1.6	
		1.7	
		1.8	
		1.9	
		2	
5		2.5	
6	CPH (SKH51 equivalent)	3	100
7		3.5	
		4	
8		4.5	
		5	
9		5.5	
		6	
10		6.5	
		7	
11		8	
15		10	
18		13	