

SKD61 equivalent+Nitrided  
Concentricity  $\phi 0.06$   
4mm head

# STRAIGHT EJECTOR SLEEVE

—SHAFT DIAMETER SELECTION TYPE · SHAFT DIAMETER DESIGNATION TYPE—

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

RoHS

Part Number		D · P	V	Applicable center pin shaft diameter tolerance
<b>Shaft diameter selection type</b>	<b>Shaft diameter designation (0.01mm increments) type</b>			
<b>ESN-L</b>	<b>ESNB</b>	-0.01 -0.02	H7	※Note that for sleeves with V dimension tolerance of H7, combination with center pins that have shaft diameter tolerance -0.005 is not recommended. The reason for this is the fitting sections S are longer. (Details <a href="#">P.1309</a> )

V	V ≤ 3.0	3.1 ≤ V ≤ 6.0	6.1 ≤ V ≤ 10.0	V ≥ 10.1
	+0.010 0	+0.012 0	+0.015 0	+0.018 0

**VH7**

SKD61 equivalent + Nitrided  
Surface : 900HV  
Base material : 40±3HRC

b (Range of guaranteed shaft diameter precision) (Details [P.1305](#))  
x1 max. = 30

Range of guaranteed base material hardness (Details [P.1307](#))  
Range of guaranteed surface hardness for nitriding (Details [P.1308](#))

Ⓢ Nitriding may extend to the head as it is applied after dimension V and P machining.  
Ⓢ To insert a stepped center pin, the following condition must be met:  
the sleeve's recess diameter (C) ≥ the center pin's shaft diameter (D) + 1.0 (Details [P.1310](#))

Alterations Part Number - L - P - V - C - S - (KC · WKC · etc.)

ESN-L8 - 200.05 - V4.1 - C4.6 - S32 - KC4.5  
ESNB 8 - 150.00 - P7.55 - V4.0 - C5.0 - S32 - KC3.775

Alteration details [P.275](#)

Alterations	Code	Spec.	1Code	Alterations	Code	Spec.	1Code
	KC	Single flat cutting (DorP)/2 ≤ KC < H/2			TC	TC = 0.1mm increments Ⓢ (4 - TC) ≤ Lmax. - L Ⓢ 2.0 ≤ TC < 4 Dimensions L and (L - S) remain unchanged.	
	WKC	Two flats cutting (DorP)/2 ≤ WKC < H/2			HC	HC = 0.1mm increments Ⓢ (DorP) ≤ HC < H Ⓢ In relation to the head diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.	
	KAC KBC	Varied width parallel flats cutting (DorP)/2 ≤ KAC < H/2 KBC = 0.1mm increments only KAC < KBC < H/2			CW	Two-step recessing (Makes recess C into two-steps and widens it) CW = 0.1mm increments W = 5mm increments Ⓢ C + 0.5 ≤ CW ≤ Cmax, CW ≤ P - 1.5 Ⓢ 10 ≤ W ≤ L - S - 10, W ≤ 200	
	RKC	Two flats (right angled) cutting (DorP)/2 ≤ RKC < H/2			CGX	CGX = 0.1mm increments Ⓢ 0.2 ≤ CGX ≤ 1.5 and CGX ≤ (D(P) - V) / 2 - 0.1 Ⓢ Combination with RGX/CGZ/RGZ not available.	
	DKC	Three flats cutting (DorP)/2 ≤ DKC < H/2			RGX	RGX = 0.1mm increments Ⓢ 0.3 ≤ RGX ≤ 1.5 and RGX ≤ (D(P) - V) / 2 - 0.1 Ⓢ Combination with CGX/CGZ/RGZ not available.	
	SKC	Four flats cutting (DorP)/2 ≤ SKC < H/2			CGZ	CGZ = 0.1mm increments Ⓢ 0.2 ≤ CGZ ≤ 1.0 and CGZ ≤ (D(P) - V) / 2 - 0.1 Ⓢ Combination with CGX/CGZ/RGZ not available.	
	KGC	Two flats (angled) cutting (DorP)/2 ≤ KGC < H/2 AG = 1° increments 0 < AG < 360			RGZ	RGZ = 0.1mm increments Ⓢ 0.5 ≤ RGZ ≤ 1.0 and RGZ ≤ (D(P) - V) / 2 - 0.1 Ⓢ Combination with CGX/CGZ/RGZ not available.	
	KTC	Three flats cutting at 120° (DorP)/2 ≤ KTC < H/2					

## Shaft diameter (D) selection type

H	Part Number		L	V	C	Cmax.	S
	Type	D					
7	ESN-L	4	40.00~200.00	1.5~2.5	C ≥ V + 0.5	3.0	20~100 (Ⓢ D4~5.5 When V1.5~V1.9 20~40)
8		4.5	40.00~250.00	1.5~2.5			
		5	*V dimension 40.00~150.00	1.5~3.0			
9		5.5		*3.1~3.5			
		6		*3.6~4.0			
		6.5		2.0~4.0			
10		7		*4.1~4.5			
		7.5		2.0~4.5			
11		8		2.0~5.0			
14		9		2.0~5.5			
15		10		2.5~6.0			
17		12		2.5~8.0			
18		13		2.5~10.0			
21		16		2.5~11.0			
25		20		2.5~13.0			
				3.0~16.0			

## Shaft diameter (P) designation 0.01mm increments type

H	Part Number		L	P	V	C	Cmax.	S
	Type	No.						
7	ESNB	4	40.00~200.00	3.50~3.99	1.5~1.9	C ≥ V + 0.5 and C ≤ P - 1.5	20~100 (Ⓢ No.4 When V1.5~V1.9 20~40)	
8		5	40.00~250.00	4.01~4.99	2.0~2.5			
9		5.5		5.01~5.99	2.0~3.4			
		6		5.51~5.99	2.0~3.9			
10		6.5		6.01~6.49	2.0~4.4			
		7		6.51~6.99	2.0~4.9			
11		7.5		7.01~7.49	2.0~5.4			
		8		7.51~7.99	2.5~5.9			
14		9		8.01~8.99	2.5~6.9			
15		10		9.01~9.99	2.5~7.9			
18		13		10.01~12.99	2.5~10.9			
21		16		13.01~15.99	2.5~13.0			
25		20		16.01~19.99	3.0~16.0			

Ⓢ V ≤ P - 2.0

Order Part Number - L - P - V - C - S

(D selection type) ESN-L8 - 200.05 - V4.1 - C5.0 - S32  
(P designation type) ESNB8 - 200.05 - P7.55 - V4.1 - C5.0 - S32

Days to Ship **Quotation**

Price **Quotation**

Ejector Sleeves

Dies Steel  
SKD61 equivalent  
+ Nitrided