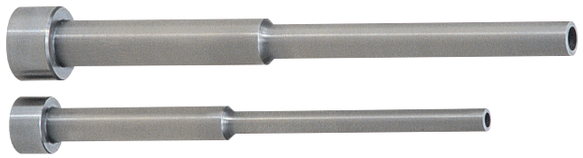
ADD.SPEC Printed in Red

SKD61 equivalent+Nitrided
Concentricity◎0.06
JIS head

STEPPED EJECTOR SLEEVE

—L · V dimension designation type—

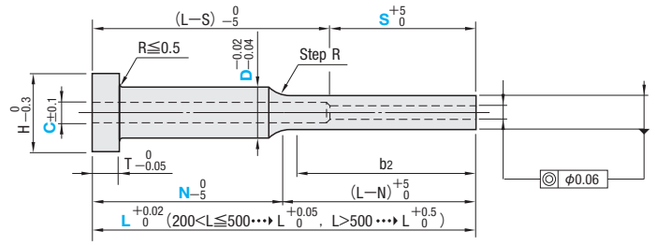
Non JIS material definition is listed on P.1351 - 1352

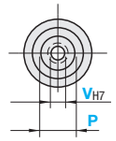


RoHS

Part Number	P	T P	T V	Applicable center pin shaft diameter tolerance
ESJF	P≦12.00	−0.01 −0.02	H7	−0.01 −0.02 ※Note that for sleeves with V dimension tolerance of H7, combination with center pins that have shaft diameter tolerance $-^{0}_{0.005}$ is not recommended. The reason for this is the fitting sections S are longer. (Details P.1309)
	P>12.00	−0.01 −0.03		

T V_{H7}			
V≦3.0	3.1≦V≦6.0	6.1≦V≦10.1	V≧10.1
+0.010 0	+0.012 0	+0.015 0	+0.018 0





C=designated dimension

M SKD61 equivalent+Nitrided
H Surface : 900HV
Base material : 40±3HRC
Range of guaranteed shaft diameter precision (D) (Details P.1305)
Range of guaranteed base material hardness (Details P.1307)
Range of guaranteed surface hardness for nitriding (Details P.1308)
Step R (Details P.1306)
Range of guaranteed tip-diameter precision (b_2) (Details P.1306)

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)

H	T	Part Number Type	D	L 0.01mm increments	L 0.1mm increments	V 0.1mm increments	P 0.01mm increments	C 0.1mm increments	Cmax.	N 1mm increments	S 5mm increments
9	6	ESJF	5	50.00～300.00	—	2.0～ 3.0	3.50～ 4.95	C≧V+0.5 and C≦P−1.0	3.5	N≧L/3	20～100 (L−S)min.: 50.00～60.00 → 20; 60.01～ → 30
			5.5			2.0～ 3.5	3.50～ 5.45		4.0		
10			6	50.00～500.00		2.0～ 4.0	4.00～ 5.95		4.5		
11			6.5			2.0～ 4.5	4.00～ 6.45		5.0		
			7			2.0～ 5.0	4.00～ 6.95		5.5		
12			7.5			2.0～ 5.5	4.00～ 7.45	(When L>300 (0.5mm increments)	6.0		
13	8		8	70.00～500.00		2.5～ 6.0	5.00～ 7.95		6.5		20～150 (L−S)≧50
14			9			2.5～ 7.0	6.00～ 8.95		7.5	(When L>600 L/3≦N≦2/3L)	
15			10		500.1～800.0	2.5～ 8.0	6.00～ 9.95	C≧V+0.5 and C≦P−1.5	8.5		
17			12	70.00～500.00		2.5～10.0	7.50～11.95		10.5		
20			15		500.1～800.0	2.5～12.0	10.00～14.95		12.5		
21			16	100.00～500.00		3.0～13.0	12.00～15.95	(When L>300 (0.5mm increments)	13.5		
25			20			3.0～16.0	14.50～19.95		17.0		

Limit value of P and V

L \ D	5・5.5	6～7	7.5・8	9～20
L≦300	P≧V+1.5	P≧V+1.5	P≧V+1.5	P≧V+2
L>300 and (L−N−10)≦S	—	P≧V+3	P≧V+4	P≧V+4.5
L>300 and (L−N−10)>S	—	P≧(V+3) and (P−C)/2 ≧0.75	P≧(V+4) and (P−C)/2≧0.75	P≧(V+4.5) and (P−C)/2≧0.75

Order: Part Number — L — V — P — C — N — S
ESJF12 — 200.05 — V4.5 — P7.55 — C6.0 — N120 — S85

Days to Ship: Quotation

Price: Quotation

Alterations: Part Number — L — V — P — C — N — S — (KC · WKC⋯etc.)
ESJF6 — 150.00 — V3.0 — P5.50 — C4.0 — N80 — S85 — KC3.5

Alteration details P.275

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

About Designation Unit and Tolerance for Key Flat Cutting

(1)To align the key flat with the shaft diameter
Unit of designation 0.05mm increments possible
The tolerance is 0 −0.1 even when D/2 is designated to fit to the shaft diameter.

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

Alterations	Code	Spec.	1Code
TC 0 −0.05 T	TC	TC=0.1mm increments T/2≦TC<T, T−TC≦Lmax.−L Dimensions L, N and (L−S) remain unchanged.	Quotation
H HC 0 −0.3	HC	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.	
CW±0.1 C±0.1 W +5 0	CW	Two-step recessing (Makes recess C into two-steps and widens it) CW=0.1mm increments W=5mm increments C+0.5≦CW≦C max. CW≦13.5 10≦W≦L−S−10 W≦N−20, W≦200	
CGX±0.05 45° 0.1 V L	CGX	CGX=0.1mm increments P−V/2 −0.1 0.2≦CGX≦1.5 and CGX≦ L−N≧50, Available when L≦300 ⊗ Combination with RGX/CGZ/RGZ not available.	
RGX±0.1 0.1 V L	RGX	RGX=0.1mm increments P−V/2 −0.1 0.3≦RGX≦1.5 and RGX≦ L−N≧50, Available when L≦300 ⊗ Combination with CGX/CGZ/RGZ not available.	
CGZ±0.05 0.1 V L 45°	CGZ	CGZ=0.1mm increments P−V/2 −0.1 0.2≦CGZ≦1.0 and CGZ≦ L−N≧50, Available when L≦300 ⊗ Combination with CGX/RGX/RGZ not available.	
RGZ±0.1 0.1 V L	RGZ	RGZ=0.1mm increments P−V/2 −0.1 0.5≦RGZ≦1.0 and RGZ≦ L−N≧50, Available when L≦300 ⊗ Combination with CGX/RGX/CGZ not available.	