

SKH51 equivalent
Concentricity 0.01
Wall thickness 0.6mm~

PRECISION STEPPED EJECTOR SLEEVES

—S DIMENSION LONG TYPE—

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

RoHS

Part Number		Head Thickness	T P	T V	Applicable center pin shaft diameter tolerance
D selection type	D designation type				
ESVKFE-H	ESVKBF-H	4mm(T4)	0 -0.005	+0.01 0	※Note that for sleeves with V dimension tolerance of $^{+0.01}_0$, combination with center pins that have shaft diameter tolerance $_{-0.005}$ is not available. The reason for this is fitting sections S are longer.
ESVKJFE-H	ESVKJBF-H	6・8mm(JIS)			
ESVKFE-M	ESVKBF-M	4mm(T4)	-0.01 -0.02		

Ⓢ When $30 < S \leq 50$, guaranteed range of V dimension precision is 10mm from tip.

$C = V + (0.2 \sim 0.4)$

Ⓢ SKH51 equivalent
Ⓢ 58~60HRC
Ⓢ Range of guaranteed base material hardness (Details P.1307)
Overall quenching (No annealing on head)

Ⓢ Note that the Stepped Center Pin's shaft diameter (D) is too large to fit in the recess (C).

D selection type

4mm head		JIS head		Part Number		0.01mm increments				N 1mm increments	S 0.5mm increments			
H	T	H	T	Type	D	L	P	V						
7	4	—	—	ESVKFE-H (P $_{-0.005}$)	3.5	40.00~125.00	3.20 ≤ P ≤ (D-0.1)	0.80 ≤ V ≤ (P-1.2)	• L ≤ 200 2.00 ≤ V ≤ (P-1.2) • L > 200 2.00 ≤ V ≤ (P-1.6)	N ≥ L/2 (L - N ≥ 10)	1.0 ≤ S ≤ (V × 10) and S ≤ 50 Ⓢ When 30 < S ≤ 50, guaranteed range of V dimension precision is 10mm from tip.			
8					4	40.00~150.00								
9					5	40.00~175.00								
10					6	ESVKFE-M (P $_{-0.01}$)	ESVKJFE-H (P $_{-0.005}$)	6				40.00~250.00	4.85 ≤ P ≤ (D-0.1)	2.00 ≤ V ≤ (P-1.2)
11					7			5.35 ≤ P ≤ (D-0.1)					2.00 ≤ V ≤ (P-1.6)	
12					8			5.85 ≤ P ≤ (D-0.1)						
13					9			6.35 ≤ P ≤ (D-0.1)						
14					10									
15					11									
16					12									
17					13									
18					14									
19					15									
19					16									
19					17									
19					18									

D designation type

4mm head		JIS head		Part Number		0.01mm increments				N 1mm increments	S 0.5mm increments			
H	T	H	T	Type	D	L	P	V						
7	4	—	—	ESVKBF-H (P $_{-0.005}$)	3.5~4.0	40.00~225.00	3.20 ≤ P ≤ (D-0.1)	0.80 ≤ V ≤ (P-1.2)	• L ≤ 200 2.00 ≤ V ≤ (P-1.2) • L > 200 2.00 ≤ V ≤ (P-1.6)	N ≥ L/2 (L - N ≥ 10)	1.0 ≤ S ≤ (V × 10) and S ≤ 50 Ⓢ When 30 < S ≤ 50, guaranteed range of V dimension precision is 10mm from tip.			
8					4.1~5.0									
9					5.1~6.0									
10					6	ESVKBF-M (P $_{-0.01}$)	ESVKJBF-H (P $_{-0.005}$)	6.1~7.0				40.00~250.00	4.85 ≤ P ≤ (D-0.1)	2.00 ≤ V ≤ (P-1.2)
11					7.1~8.0			5.35 ≤ P ≤ (D-0.1)					2.00 ≤ V ≤ (P-1.6)	
12					8.1~9.0			5.85 ≤ P ≤ (D-0.1)						
13					9.1~10.0			6.35 ≤ P ≤ (D-0.1)						
14					10.1~11.0									
15					11.1~12.0									
16					12.1~13.0									
17														
18														
19														
19														
19														

Order Days to Ship Quotation

Part Number	D	L	P	V	N	S
Type	4	120.05	P3.80	V2.60	N75	S26
(D selection type)ESVKFE-H	4	120.05	P3.80	V2.60	N75	S26
Part Number	D	L	P	V	N	S
(D designation type)ESVKBF-H	4.6	120.05	P3.80	V2.60	N75	S26

Quotation

Price Alterations Part Number D - L - P - V - N - S - (KC・WKC...etc.)

ESVKBF-H - 4.0 - 120.05 - P3.80 - V2.60 - N70 - S26 - KC2.5

Alteration details P.275

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

Ⓢ About Designation Unit for Key Flat Cutting

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

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

Alterations	Code	Spec.	1Code
	TC	TC = 0.1mm increments T/2 ≤ TC < T T - TC ≤ Lmax. - L Ⓢ Dimensions L, N, and (L - S) remain unchanged.	Quotation
	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.	
	HCC	HCC = 0.1mm increments D + 1 ≤ HCC < H - 0.3	
	CGX	CGX = 0.1mm increments 0.2 ≤ CGX ≤ 1.5 and CGX ≤ (P-V)/2 - 0.1 Ⓢ Available when L - N ≥ 50 Ⓢ Combination with RGX not available.	
	RGX	RGX = 0.1mm increments 0.3 ≤ RGX ≤ 1.5 and RGX ≤ (P-V)/2 - 0.1 Ⓢ Available when L - N ≥ 50 Ⓢ Combination with CGX not available.	

Ⓢ Characteristics

- The fitting section (S) can be long up to V × 10.
- Precision wire cutting is used to make the dimension S longer.
- Softened layer in the bore made by wire cutting is removed by polishing. (Tolerances of the dimension V are values after polishing.)
- The ejector sleeves are of high precision (concentricity: 0.01・tolerances of the dimension V: $^{+0.01}$) in addition to having a low price.

Ⓢ Precautions for use

Use a construction that supports sliding and does not readily apply a load to the flange of the ejector pin, such as by using a precision ejector guide pin & bushing.

Ejector Sleeves

High Speed Steel
SKH51 equivalent