

STEPPED EJECTOR SLEEVE & ONE-STEP CENTER PIN SETS

— L · V DIMENSION DESIGNATION TYPE —

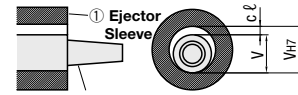
Ⓜ Non JIS material definition is listed on P.1351 - 1352

RoHS



Part Number	Head Thickness (T · J)	T Head Thickness (T · J)
ESND-□	4mm (T4)	0 -0.02
ESJD-□	4 · 6 · 8mm (JIS)	0 -0.05

Clearance (cℓ) between the ejector sleeve's internal diameter (VH7) and the center pin's shaft diameter (V).



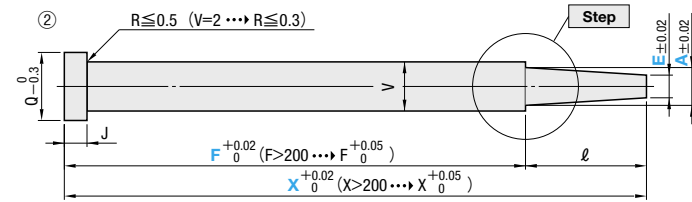
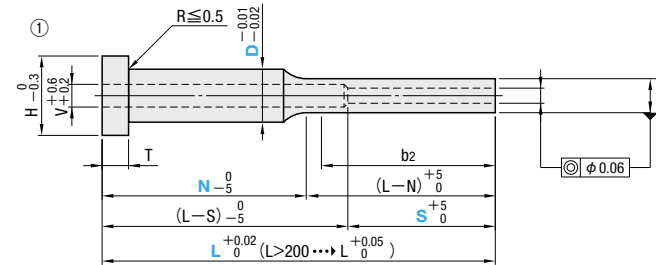
Clearance (cℓ) < 0.03

VH7 dimension tolerance

V	Tolerance
2.0~3.0	+0.010 0
3.1~6.0	+0.012 0
6.1~8.0	+0.015 0

Head diameter/thickness of center pin

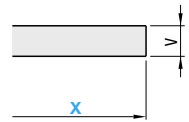
V	4mm head		JIS head	
	Q	J	Q	J
2.0	4		4	
2.1~2.5	5		5	
2.6~3.0	6		6	
3.1~3.5		7		7
3.6~3.9		7		7
4.0				8
4.1~4.5				8
4.6~4.9				8
5.0				9
5.1~5.5				9
5.6~5.9				10
6.0				10
6.1~6.4				11
6.5				11
6.6~7.0				11
7.1~7.5				13
7.6~7.9				13
8.0				13



Default α=0
When CX code is used α=CX
When RX code is used α=RX
When SR code is used α=E/2

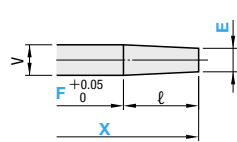
① SKD61 equivalent + Nitrided Surface 900HV
② SKD61 equivalent + Nitrided Surface 900HV
Base material 40±3HRC Base material 40~45HRC
Range of guaranteed shaft diameter precision (Details P.1305)
Range of guaranteed base material hardness (Details P.1307)
Range of guaranteed surface hardness for nitriding (Details P.1308)
Ⓜ No nitriding on the tip (ℓ) of center pin.
Ⓜ Range of guaranteed tip-diameter precision (b2) (Details P.1306)

Step S (Not processed)



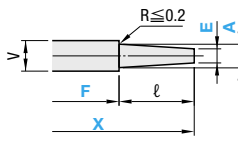
Alterations CX Designate in $0.3 \leq CX \leq 0.5$, $CX < V/2$
Alterations RX Designate in $0.3 \leq RX \leq 0.5 \sim 1.0$, $RX < V/2$
Alterations SR $SR = V/2$

Step A



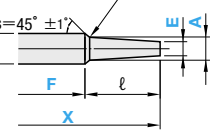
Ⓜ $\ell \geq 0.5 + \alpha$

Step B



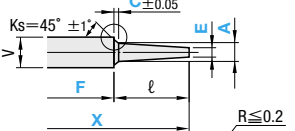
Ⓜ $\ell \geq 0.7 + \alpha$

Step C



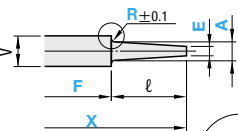
Ⓜ $\ell \geq \frac{V-A}{2} + 0.5 + \alpha$
Ⓜ $\ell \geq \frac{V-A}{2 \tan \alpha} + 0.5 + \alpha$

Step D



Ⓜ $0.1 \leq C \leq 1.5$
Ⓜ $C < \frac{V-A}{2}$
Ⓜ $\ell \geq C + 0.5 + \alpha$

Step E



Ⓜ $0.3 \leq R \leq \frac{V-A}{2}$
Ⓜ $\ell \geq R + 0.5 + \alpha$

Ejector Sleeve		4mm head		JIS head		Part Number		L	V	P	N	S	0.01mm increments			0.1mm increments	ℓ max.			
H	T	H	T	Type	Step	D		increments	increments	increments	increments	increments	X	F	A	Emin.	C · R			
8		9		ESND— (4mm head)	S A B C D E	5	50.00	2.0~3.0	3.50~4.95	N ≥ L/3 and L-N ≥ 10	20~100	L min. (L-S) 50.00~60.00 20 60.01~300.00 30	L+100 ≥ X and X ≥ L+20	F ≥ 50.00	No need to designate A · E when [Step] S is selected.	No need to designate F when [Step] S is selected.	No need to designate A when [Step] A is selected.	1.00	[Step] D only $0.1 \leq C \leq 1.5$ and $C < \frac{V-A}{2}$	V × 10 (V ≥ 5.0) ℓ max. = 50
9		10				6	250.00	2.0~3.5	3.50~5.45											
10	4	11				6.5		2.5~4.0	4.00~5.95											
10		11				7	80.00	2.5~4.5	4.00~6.95											
11		12		ESJD— (JIS head)	S A B C D E	7.5		2.5~4.5	4.00~7.45	N ≥ L/3 and L-N ≥ 10	30~100 L-S ≥ 20									
15		13				8	300.00	2.5~5.5	5.00~7.95											
15		13				10		4.0~7.0	6.00~9.95											
17		17				12		4.0~8.0	7.50~11.95											

D	Limit value for P
5~8	P ≥ V+1.5
10~12	P ≥ V+2

Order Part Number — L — V — P — N — S — X — F — A — E — C(R)
ESND—B6 — 300.00 — V2.5 — P4.10 — N140 — S100 — X400.00 — F370.00 — A2.10 — E1.80

Days to Ship Quotation

Price Quotation

Alterations Part Number — L — V — P — N — S — X — F — A — E — C(R) — (KC · WKC...etc.)
ESJD—C8 — 250.03 — V3.6 — P6.05 — N150 — S100 — X325.00 — F300.00 — A2.80 — E2.01 — KC5.5

Alterations	Code	Spec.	1Code	Alterations	Code	Spec.	1Code
	KC WC	KC · WC = 0.1mm increments KC = D/2 ... 0.05mm increments possible WC = V/2 ... 0.05mm increments possible Ⓜ D/2 ≤ KC < H/2, V/2 ≤ WC < Q/2	Quotation		CX	CX = 0.1mm increments Ⓜ 0.3 ≤ CX ≤ 0.5, CX < E (or V)/2 E (or V) is a dimension prior to CX machining. α = CX	Quotation
	WKC WWC	WKC · WWC = 0.1mm increments WKC = D/2 ... 0.05mm increments possible WWC = V/2 ... 0.05mm increments possible Ⓜ D/2 ≤ WKC < H/2, V/2 ≤ WWC < Q/2			RX	RX = 0.1mm increments Ⓜ V ≤ 4.5, 0.3 ≤ RX ≤ 0.5, RX < E (or V)/2 V > 4.5, 0.3 ≤ RX ≤ 1.0 E (or V) is a dimension prior to RX machining. α = RX	
	HC QC	HC · QC = 0.1mm increments Ⓜ D ≤ HC < H, V ≤ QC < Q Ⓜ In relation to the diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.			SR	Finishes the tip in spherical shape (SR). α = E (or V)/2 Ⓜ X is +0.05 E (or V) is a dimension prior to SR machining.	
	TC JC	TC · JC = 0.1mm increments (Dimensions L · X and F remain unchanged.) Ⓜ T/2 ≤ TC < T, T - TC ≤ Lmax. - L J/2 ≤ JC < J, J - JC ≤ Xmax. - X			AC	Changes the standard angle (Ks = 45°). AC = 1° increments Ⓜ 30 ≤ AC ≤ 60 Ⓜ [Step] Available for C/D Ⓜ Combination with RR not available. When [Step] D, C ≤ 1.0, A + 2(CX tan AC) < V	
					RR	Changes R (normally 0.2 or less) to R0.3~0.5. (for Strength improvement) Designation method RR Ⓜ Available for [Step] B, C, D Ⓜ V - A ≥ 1.0 When [Step] D, C ≥ 0.5	

Ⓜ Alterations for Ejector Sleeves : KC, WKC, HC, TC
Ⓜ Center pin alteration : WC, WWC, QC, JC, CX, RX, SR, AC, RR