


STEPPED EJECTOR SLEEVE & ONE-STEP CENTER PIN SETS

— L DIMENSION DESIGNATION TYPE —

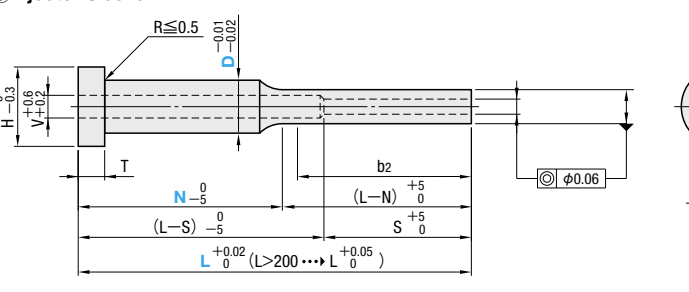
Ⓜ Non JIS material definition is listed on P.1351 - 1352

RoHS

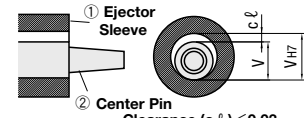


Part Number	Head Thickness (T·J)	Head Thickness (T·J)
ESNM—□	4mm (T4)	0 -0.02
ESJM—□	4 · 6 · 8mm (JIS)	0 -0.05

① Ejector Sleeve



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



Clearance (cℓ) < 0.03

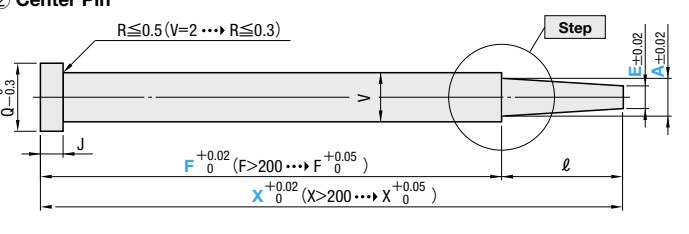
VH7 dimension	
V	tolerance
2.0~3.0	+0.010 0
3.1~5.5	+0.012 0

V	4mm head		JIS head	
	Q	J	Q	J
2.0	4	4	4	4
2.5	5	4	5	4
3.0	6	4	6	4
3.5	7	4	7	4
4.0	7	4	7	4
4.5	8	4	8	6
5.0	8	4	8	6
5.5	9	4	9	6

Ⓜ S dimension depends on the designated L dimension.

L	100.00~125.00	125.01~150.00	150.01~175.00	175.01~200.00	200.01~225.00	225.01~250.00	250.01~275.00	275.01~300.00
(L-S)	75	100	115	120	125	150	175	200

② Center Pin



Ⓜ SKD61 equivalent+Nitrided
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Ⓜ Surface 900HV
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Base material 40±3HRC
Base material 40~45HRC

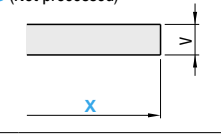
Ⓜ No nitriding on the tip (ℓ) of center pin.

Ⓜ Range of guaranteed tip-diameter precision (b₂) (Details P.1306)

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)

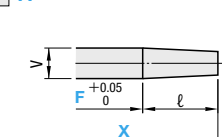
Default α=0
When CX code is used α=CX
When RX code is used α=RX
When SR code is used α=E/2

Step S (Not processed)



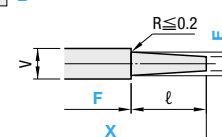
Alterations CX 0.3 Designate in 0.3 ≤ CX ≤ 0.5, CX < V/2
Alterations RX 0.3 Designate in 0.3 ≤ RX ≤ 0.5 ~ 1.0, RX < V/2
Alterations SR SR=V/2

Step A



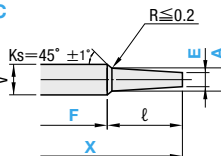
ℓ ≥ 0.5 + α

Step B



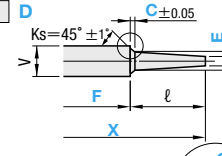
ℓ ≥ 0.7 + α

Step C



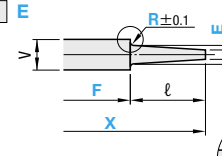
ℓ ≥ $\frac{V-A}{2} + 0.5 + \alpha$
When AC code is used ℓ ≥ 2tanAC + 0.5 + α

Step D



0.1 ≤ C ≤ 1.5
C < $\frac{V-A}{2}$
ℓ ≥ C + 0.5 + α

Step E



0.3 ≤ R ≤ $\frac{V-A}{2}$
ℓ ≥ R + 0.5 + α

Ejector Sleeve		P	Part Number		D	L 0.01mm increments	V	N	0.01mm increments				0.1mm increments	ℓ max.										
4mm head	JIS head		Type	Step					X	F	A	Emin.			C · R									
7			ESNM (4mm head)	—	S A B C D E	4	100.00~125.00	2.0	50 60	L+100≥X and X≥L+20	F≥100.00 No need to designate F when [Step] S is selected.	V>A≥E No need to designate A · E when [Step] S is selected.	0.70	[Step] D only 0.1 ≤ C ≤ 1.5 and C < $\frac{V-A}{2}$ [Step] E only R ≥ 0.3 and R ≤ $\frac{V-A}{2}$	V × 10 (V ≥ 5.0 ℓ max = 50)									
		125.01~150.00					60 80																	
8							5	100.00~125.00	2.0 2.5							50 60	2.0 2.5 3.0	60 80	1.00					
		125.01~150.00					60 80																	
9	4	V+1.5					6	100.00~150.00	2.0							60 80	2.0 2.5 3.0	80 100	2.00					
							6	150.01~200.00	2.5 3.5							60 80								
11							ESJM (JIS Head)	—	S A B C D E							8	100.00~150.00	3.5 4.0	60 80	No need to designate A when [Step] A is selected.	No need to designate A when [Step] A is selected.	2.00	[Step] D only 0.1 ≤ C ≤ 1.5 and C < $\frac{V-A}{2}$ [Step] E only R ≥ 0.3 and R ≤ $\frac{V-A}{2}$	V × 10 (V ≥ 5.0 ℓ max = 50)
		150.01~200.00															80 100							
		200.01~250.00															80 100 (120) (150)							
		250.01~300.00															80 100 (120) (150)							
		125.00~150.00															60 80 100							
		150.01~200.00															80 100 120							
		200.01~225.00	100 120																					
		225.01~250.00	100 120 150																					
		250.01~300.00	120 150																					

Ⓜ N (120) and (150) are applicable for ESJM—alone.

Order **Part Number** — **L** — **V** — **N** — **X** — **F** — **A** — **E** — **C(R)**
ESNM—B6 — 200.00 — V2.5 — N80 — X300.00 — F280.00 — A2.00 — E1.60

Days to Ship **Quotation**

Price **Quotation**

Alterations **Part Number** — **L** — **V** — **N** — **X** — **F** — **A** — **E** — **C(R)** — (KC · WKC...etc.)
ESNM—B6 — 200.00 — V2.5 — N80 — X300.00 — F280.00 — A2.00 — E1.60 — KC3.0

Alteration details P.275

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
	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	
	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.	
	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	

Alterations	Code	Spec.	1Code
	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
	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	
	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.	
	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(CXtanAC) < 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 [Step] When [Step] D, C ≥ 0.5	

Ⓜ ① Alterations for Ejector Sleeves : KC, WKC, HC, TC
② Center pin alteration : WC, WWC, QC, JC, CX, RX, SR, AC, RR