Dies Steel
SKD61 equivalent
+
Nitrided

STRAIGHT EJECTOR SLEEVE & ONE-STEP CENTER PIN SETS

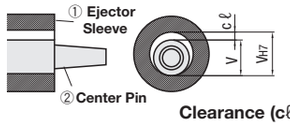
—L DIMENSION DESIGNATION TYPE—

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

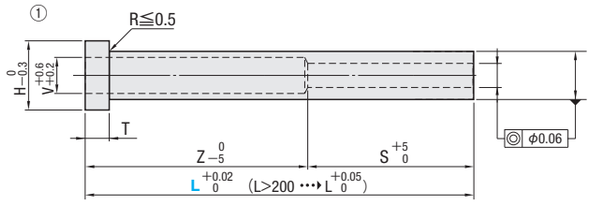
RoHS

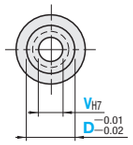
Part Number	Head Thickness (T・J)	T Head Thickness (T・J)	
		L≦300	L>300
ESNS—□	4mm (T4)	$^{0}_{-0.02}$	$^{0}_{-0.05}$
ESJS—□	4・6・8mm (JIS)	$^{0}_{-0.05}$	

Clearance (cℓ) between the ejector sleeve's internal diameter (V_{H7}) and the center pin's shaft diameter (V).



Clearance (cℓ)＜0.03





T V_{H7}dimension tolerance

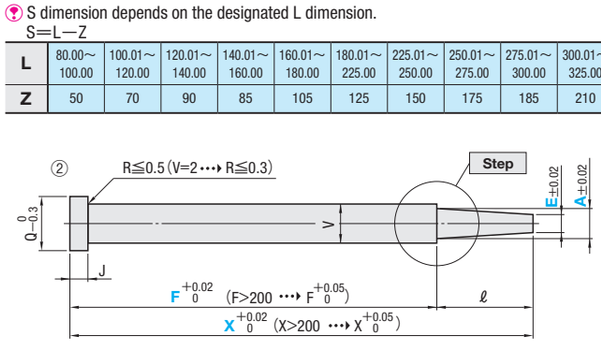
V	
1.5～3.0	$^{+0.010}_{0}$
3.5～6.0	$^{+0.012}_{0}$
6.5～8.5	$^{+0.015}_{0}$

Head diameter/thickness of center pin

V	4mm head Q	4mm head J	JIS head Q	JIS head J
1.5	3	4	3	4
2.0	4		4	
2.5	5		5	
3.0	6		6	
3.5	7		7	
4.0	8		8	6
4.5			9	
5.0				
5.5	9		10	
6.0				
6.5	10		11	
8.0	11		13	8
8.5	13		14	

S dimension depends on the designated L dimension.
S=L—Z

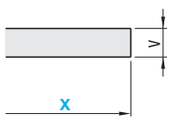
L	80.00～100.00	100.01～120.00	120.01～140.00	140.01～160.00	160.01～180.00	180.01～225.00	225.01～250.00	250.01～275.00	275.01～300.00	300.01～325.00	325.01～350.00	350.01～375.00	375.01～400.00
Z	50	70	90	85	105	125	150	175	185	210	235	225	250



Default $\alpha = 0$
When CX code is used $\alpha = CX$
When RX code is used $\alpha = RX$
When SR code is used $\alpha = E/2$

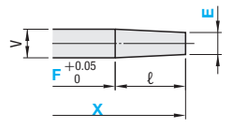
① M SKD61 equivalent+Nitrided H Surface 900HV Base material 40±3HRC
② M SKD61 equivalent+Nitrided H Surface 900HV Base material 40～45HRC
Range of guaranteed shaft diameter precision (Details P.1305)
Range of guaranteed base material hardness (Details P.1307)
Range of guaranteed surface hardness for nitriding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

Step S (Not processed)



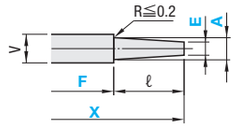
Alteration CX Designate in 0.3 ≦ CX ≦ 0.5, CX ＜ V/2
Alteration RX Designate in 0.3 ≦ RX ≦ 0.5 ～ 1.0, RX ＜ V/2
Alteration SR SR = V/2

Step A



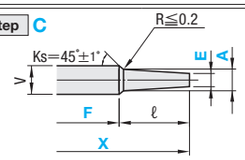
ℓ≧0.5+α

Step B



ℓ≧0.7+α

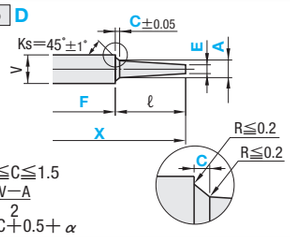
Step C



When AC code is used

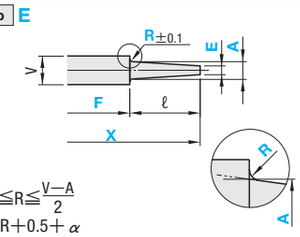
$\ell \geqq \frac{V-A}{2}+0.5+\alpha$ $\ell \geqq \frac{V-A}{2\tan AC}+0.5+\alpha$

Step D



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

Step E



$0.3 \leqq R \leqq \frac{V-A}{2}$
ℓ≧R+0.5+α

Ejector Sleeve 4mm head H	Ejector Sleeve 4mm head T	Ejector Sleeve JIS head H	Ejector Sleeve JIS head T	Part Number Type	Part Number Step	Part Number D	L 0.01mm increments	V
7	4	8	6	ESNS— (4mm head) ESJS— (JIS Head)	S A B C D E	4	80.00～160.00	1.5 2.0 2.5
							160.01～200.00	2.0
8						4.5	80.00～160.00	1.5 2.0 2.5
							160.01～200.00	2.0
		9				5	80.00～225.00	2.0 2.5 3.0
							225.01～275.00	3.0
9						5.5	80.00～225.00	2.0 2.5 3.0
							225.01～275.00	3.0
		10				6	80.00～300.00	2.0 2.5 3.0 3.5 4.0
							300.01～400.00	3.0 3.5
10		11				6.5	80.00～300.00	2.0 2.5 3.0 3.5 4.0
							300.01～400.00	3.0 3.5 4.0
						7	80.00～300.00	2.0 2.5 3.0 3.5 4.0 4.5
							300.01～400.00	3.0 3.5 4.0 4.5
11		12				7.5	80.00～300.00	3.0 3.5 4.0 4.5
							300.01～325.00	4.0 4.5
		13	8			8	80.00～275.00	2.0 2.5 3.0 3.5 4.0 4.5 5.0
							275.01～400.00	3.0 3.5 4.0 4.5 5.0
15		15				10	80.00～400.00	4.0 4.5 5.0 5.5 6.0 6.5
17		17				12	80.00～400.00	4.0 4.5 5.0 5.5 6.0 6.5 8.0 8.5

0.01mm increments X	F	A	Emin.	0.1mm increments C・R	ℓ max.
L+100≧X X≧L+20	F≧50.00 No need to designate F when Step S is selected.	V>A≧E No need to designate A・E when Step S is selected. No need to designate A when Step A is selected.	0.70	Step D only 0.1≦C≦1.5 and $C < \frac{V-A}{2}$	V×10 (V≧5.0 ••• ℓ max.=50)
			1.00		
			1.50	Step E only R≧0.3 and $R \leqq \frac{V-A}{2}$	
			2.00		

Order: Part Number — L — V — X — F — A — E — C(R)
ESNS—D8 — 300.00 — V5.0 — X390.00 — F350.00 — A2.50 — E2.00 — C1.0

Quotation

Price: Quotation

Alterations: Part Number — L — V — X — F — A — E — C(R) — (KC・WKC···etc.)
ESNS—E10 — 310.00 — V4.5 — X400.00 — F300.00 — A3.20 — E2.40 — R0.3 — HC13—WC6

Alteration details P.275

Alterations	Code	Spec.	1Code
KC $^{0}_{-0.1}$ WC	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 $^{0}_{-0.1}$ WWC	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	
H+Q HC $^{0}_{-0.3}$	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.	
T・J TC・JC	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	

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

Alterations	Code	Spec.	1Code
CX ±0.1	CX	CX=0.1mm increments 0.3≦CX≦0.5, CX＜E (orV)/2 E (orV) is a dimension prior to CX machining. α=CX	Quotation
RX ±0.1	RX	RX=0.1mm increments V≦4.5, 0.3≦RX≦0.5, RX＜E (orV)/2 V＞4.5, 0.3≦RX≦1.0 E (orV) is a dimension prior to RX machining. α=RX	
SR	SR	Finishes the tip in spherical shape (SR). α=E (orV)/2 X is $^{+0.05}_{0}$ E (orV) is a dimension prior to SR machining.	
AC°	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(C×tanAC°)＜V	
RR	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	

Ejector Sleeves

Dies Steel SKD61 equivalent + Nitrided