

STRAIGHT EJECTOR SLEEVES

STRAIGHT EJECTOR SLEEVES
— ◎0.08 STANDARD TYPE —

Part No. D-ESN D-ESD
Material 1.2344 equivalent +Nitrided 1.2344 equivalent +Nitrided

STRAIGHT EJECTOR SLEEVES
— ◎0.08 DIMENSIONS SPECIFY TYPE —

Part No. D-ESN-L D-ESD-L
Material 1.2344 equivalent +Nitrided 1.2344 equivalent +Nitrided

STRAIGHT EJECTOR SLEEVES & CENTER PIN SETS

Part No. D-ESNP D-ESDP
Material 1.2344 equivalent +Nitrided 1.2344 equivalent +Nitrided

Guide for ejector sleeves

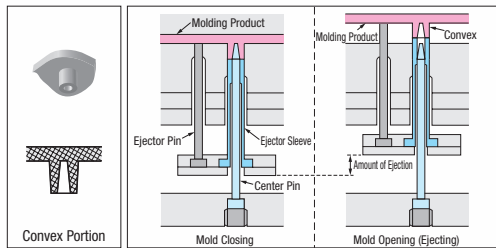
The ejector sleeve is a tubular ejection member used for ejecting the convex portion on the surface of a plastic part such as the home appliance casing, and is used in combination with a center pin.

The convex portion of the molded product is tightly adhered to the mold due to molding shrinkage, thus requiring a large ejection force for mold release.

If only the ejector pin is used for ejection, the stress mark will occur on the surface of the molded product due to the excessively large ejection force. Sometimes the convex portion may also be broken and remain in the mold.

The ejector sleeve is required in order to avoid the above problems.

In addition, in order to facilitate the precise movement of the ejector sleeve and the center pin, it is recommended to use the ejector plate guide mechanism (ejector leader pins and bushings).



Standard	Material	Head Thickness (T)	Concentricity between the hole and shaft diameters	Smax.	Tip Diameter (P) Tolerance	Straight		Dimensions Specify Type				Dimensions Specify Type			
						Standard type	Page	L Specify Type	Page	Shaft Diameter Select	Page	Shaft Diameter Specify	Page	Shaft Diameter Specify	Page
DIN TYPE	1.2344 equivalent +Nitrided	3 · 5 7 · 8	◎ 0.08	150	g6	D-ESN	P.15	—	—	D-ESN-L D-ESNP(*)	P.16 P.19	—	—	—	—
	1.2344 equivalent				g6	D-ESD	P.15	—	—	D-ESD-L D-ESDP(*)	P.16 P.19	—	—	—	—

⊕ Hole diameter (V) tolerance: H7 ⊕ Hole diameter (V) finishings: Reaming ⊕ (*): Center pin sets

Ejector Sleeve and Center Pin Combination Example

Ejector sleeve hole diameter (V) tolerance	H7	Center Pin Shaft Diameter (DorP) Tolerance	
		Unsuitable	Applicable
		Combination of the ejector sleeves and -0.005 shaft-diameter tolerance center pins is unsuitable, due to the large contact surface with the center pins. Where the same dimensions have been specified for hole diameter and shaft diameter, take caution as there have been problems with the pins not fitting the holes, the pins stopping partially into the holes and sliding not being smooth.	The minimum clearance required for fit between the ejector sleeve and center pin (0.01mm) can be achieved.

Alteration Guide for Ejector Sleeve

Items	Alterations	Codes	Specifications
Head alteration	Key flat cutting	KC	Single flat cutting Range of specification: $D/2(P/2) \leq KC < H/2$ Unit of specification: $KC -0.1$
	Key flat cutting	WKC	Two parallel flats cutting Range of specification: $D/2(P/2) \leq WKC < H/2$ Unit of specification: $WKC -0.1$
	Key flat cutting	KAC KBC	Varied width parallel flats cutting Range of specification: $D/2(P/2) \leq KAC$ $KAC < KBC < H/2$ Specification method: $KC2.61$ (When P5.22) · $RKC2.77$ (When P5.54) · $WKC3.085$ (When P6.17) · $DKC3$ (When D6) · $KAC3.25 - KBC4$ (When P6.5) · $SKC2.5$ (When P5)
	Key flat cutting	RKC	Right angled two flats cutting Range of specification: $D/2(P/2) \leq RKC < H/2$ Unit of specification: $RKC -0.1$
	Key flat cutting	DKC	Three flats cutting Range of specification: $D/2(P/2) \leq DKC < H/2$ Unit of specification: $DKC -0.1$
	Key flat cutting	SKC	Four flats cutting Range of specification: $D/2(P/2) \leq SKC < H/2$ Unit of specification: $SKC -0.1$
	Head diameter change	HC	Reduces the head diameter. Range of specification: $D(P) \leq HC < H$ Unit of specification: 0.1mm increments Specification method: HC6.5 ⊕ In relation to the head diameter tolerance, alteration may create a straight piece with little diameter difference between the head and shaft.
Head thickness change	TC	Reduces the head thickness from the standard. Dimension L remains unchanged (except blank type). Unit of specification: $T/2 \leq TC < T$ ⊕ $T - TC \leq Lmax.$ ⊕ JIS Type only	

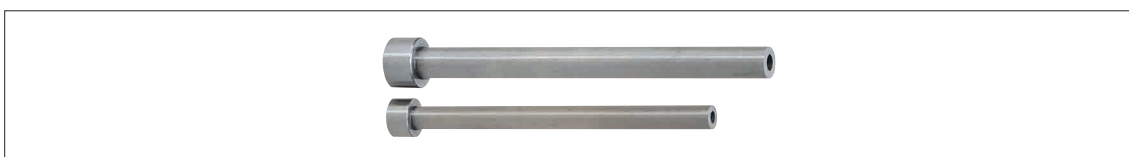
STRAIGHT EJECTOR SLEEVES

— ◎0.08 STANDARD TYPE —

DIN ISO 8405 1.2344 equivalent + Nitrided

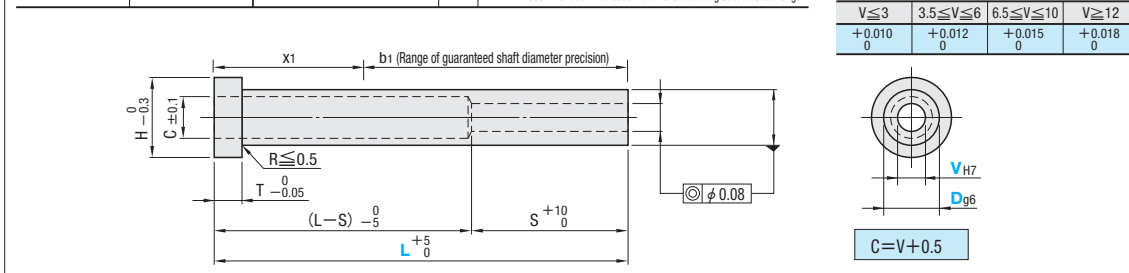
DIN ISO 8405 1.2344 equivalent Hardened

— ◎0.08 STANDARD TYPE —



Type	Material	Surface	Applicable center pin shaft diameter tolerance
D-ESN	1.2344 equivalent + Nitrided	Surface: 900HV Base Material: 40 ± 3HRC	H7
D-ESD	1.2344 equivalent	Base Material: 50 ~ 55HRC	H7

Note that for sleeves with V dimension tolerance of H7, combination with center pins that have shaft diameter tolerance -0.005 is not recommended. The reason for this is the fitting section S are longer.



L	S	V	D
100 125 150 175 200 250 300 350 400 450 500	50 (V1.5 ~ 40) 60 75 100 115 150	1.5 2 2.5 3 3.5 4 4.5 5 6 6.5 7 8 9 10 11 12 15	1.5 2 2.5 3 3.5 4 4.5 5 6 6.5 7 8 9 10 11 12 15

⊕ Nitriding may extend to the head as it is applied after dimension V and D machining.
⊕ The diameter (D) portion of the stepped center pin cannot be inserted into the relief hole (C).

H	T	Part No.		L	V	
		Type	D			
8	3	D-ESN (1.2344 equivalent + Nitrided)	4	100 *125 *150	1.5	
				100 *125 *150 *175 *200	2 2.5	
				100 *125 *150	1.5	
				*100 *125 *150 175 *200	2.5	
				100 *125 *150 *175 *200	2 2.5	
				100 *125 *150 *175 *200 250 *300	3	
	10	5	D-ESD (1.2344 equivalent Hardened)	4	100 *125 150 175 200	2 2.5
					100 *125 *150 175 *200 250 300	3
					100 *125 *150 175 *200 250 300	3.5
					100 *125 *150 *175 *200 250 *300	2 2.5
					100 *125 *150 *175 *200 250 *300 350 *400 450	3 3.5
					100 *125 *150 *175 *200 250 *300 350 *400 450	4
12	5	D-ESN (1.2344 equivalent + Nitrided)	7	100 125 150 175 200 250 300 350 400 450	3 3.5	
				100 125 *150 175 *200 250 *300 350 *400 450	4 4.5 5	
				100 125 150 175 200 250 300	3	
				100 125 150 175 *200 250 300 350	3.5 4.5	
				100 125 150 175 *200 250 *300 350	4 5	
				100 125 *150 *175 *200 250 *300 350 *400 450	4	
	14	7	D-ESD (1.2344 equivalent Hardened)	8	100 125 150 175 200 250 300 350 400 450 500	4.5 5.5
					100 125 *150 *175 *200 250 *300 350 *400 450 *500	5 6
					100 125 150 175 200 250 300 350	3.5 4 4.5
					100 125 150 175 *200 250 *300 350 400 450 500	5 6.5
					100 125 150 175 *200 250 *300 350 400 450 *500	6
					100 125 *150 175 *200 250 *300 350 400 450 *500	6 6.5
16	7	D-ESN (1.2344 equivalent + Nitrided)	10	100 125 150 175 200 250 *300 350 400 450 500	5.5	
				100 125 150 175 200 250 *300 350 400 450 *500	7	
				100 125 150 175 200 250 300 350 400 450	4	
				100 125 150 175 200 250 300 350 400 450 500	5 6.5 7	
				100 125 150 175 *200 250 *300 350 400 450 500	8 9	
				100 125 150 175 *200 250 *300 350 400 450 500	8 9	
	18	7	D-ESD (1.2344 equivalent Hardened)	13	100 125 150 175 200 250 *300 350 400 450 500	10
					100 125 150 175 *200 250 *300 350 400 450 500	10
					100 125 150 175 200 250 300 350 400 450 500	9
					100 125 150 175 *200 250 *300 350 400 450 500	10
					100 125 150 175 *200 250 *300 350 400 450 500	10 12
					100 125 150 175 *200 250 *300 350 400 450 500	11
22	7	D-ESN (1.2344 equivalent + Nitrided)	15	100 125 150 175 200 250 *300 350 400 450 500	10	
				100 125 150 175 *200 250 *300 350 400 450 500	10 12	
				100 125 150 175 200 250 300 350 400 450 500	11	
				100 125 150 175 *200 250 *300 350 400 450 500	12	
				100 125 150 175 *200 250 *300 350 400 450 500	12	
				100 125 150 175 *200 250 *300 350 400 450 500	15	

Order **Part No.** — **L** — **V**
D-ESN 6.5 — 125 — 2.5

Alterations **Part No.** — **L** — **V** — (KC · WKC · etc.) Alteration details P.14
D-ESD 8 — 500 — 4.5 — KC4.5