



■ Precision stripper guide pins

Shape	Catalog No.	M	Page
Headed	VGPH	SKD11	P.899
	WVGPH	Carbide (V30)	P.898
Straight	VGPN	SKD11	P.899
	VGPS (With press-in lead)	SKD11	
	WVGPN	Carbide (V30)	P.898
	WVGPS (With press-in lead)	Carbide (V30)	
Detachable type	VGPR	SKD11	P.900

- Carbide (V30): The use of copper alloy bushings is recommended for carbide guide pins.
- With press-in lead (VGPS · WVGPS): Press-in lead is provided on the thread side. By adjusting the mounting hole, these types can be fixed either by press fit or transition fit.

■ Precision stripper guide bushings

Shape	Catalog No.	M	Description	Page
Headed	VGBH	SUJ2	Oil type	P.901
	VGHZ	FC250	Oil-free type	
	VSGBF	SUJ2+Copper alloy	Oil type	
	VSGFZ	SUJ2+Copper alloy	Oil-free type	
	VGHM	Special sintered alloy	Oil-free type	
Straight	VGBL	SUJ2	Oil type	P.901
	VGBZ	FC250	Oil-free type	
	VSGSF	SUJ2+Copper alloy	Oil type	
	VSGCZ	SUJ2+Copper alloy	Oil-free type	
	VGBM	Special sintered alloy	Oil-free type	

- Oil type : A spiral oil groove of 6mm pitch is created on the sliding part of the inner surface.
- Oil-free type : A special solid lubricant (main component: MoS₂) is embedded in the form of rings at a pitch of 2mm on the sliding part of the inner surface. Use these products without oil.
(However the use of initial break-in greasing will further improve durability.)

- Copper alloy : The guide's inner surface is covered with copper alloy for improved seizure resistance.
- Sintered alloy : This is an oil-free bushing made of a special alloy on which a solid lubricant composed mainly of graphite is dispersed and sintered for oil-impregnation. The friction coefficient is lower than for cast iron or copper alloy bushings, and the wear resistance is superior. Because the solid lubricant is dispersed and sintered over the entire bushing, the product is resistant to oil film depletion, allowing it to be used for high-speed operations.

- Ⓢ Notes
- (1) Use oil-free types (except for sintered alloy types) with a stroke of 1mm or more. Because the inner surface of the bushing is impregnated with lubricant, do not clean it.
 - (2) When the mounting hole is machined using jig grinding or similar means and the bushing is bonded with zero clearance, use bushing alteration DRC (addition of grooves for Loctite, see P.902).

PRECISION Stripper guide pins and bushings with a tolerance range of 2 μm!

PRECISION These stripper guide pins and bushings are standard parts that are ideal for precision and super-precision progressive dies. Both the outer diameter of pin and the inner/outer diameters of the bushing are finished to a tolerance range of 2 μm. The clearance between pin and bushing (one side) is kept to 2.5 ~ 4.5 μm.

■ Accuracy guarantee

PRECISION In order to ensure reliable use of our stripper guide pins and bushings by the customers, these products are measured both at the time of manufacture and also again after being left in a thermostatic chamber for a certain period of time after manufacture. These measurements are listed in the Quality Guarantee Certificate which is attached to the product.

Measurement item	Guaranteed accuracy	
	Guide pin	Guide bushing
Dimensions	Outer diameter	Outer diameter
	Inner diameter	Inner diameter
	Concentricity	Concentricity
Shape	Roundness	Roundness
	Surface roughness	Surface roughness

Ⓢ The use of copper alloy bushings (pages 901 and 902) is recommended for carbide stripper guide pins.

	WVGPH (Headed type)		M V30 (HIP) H 88 ~ 89HRA
	WVGPN (Straight type)		M V30 (HIP) H 88 ~ 89HRA
	WVGPS (Straight With press-in lead)		M V30 (HIP) H 88 ~ 89HRA

M × ℓ Pitch	R	B	Catalog No.		L				Base unit price for 1 ~ 9 pieces			
			Type	D	50	60	70	80	90	100	WVGPH	WVGPN · WVGPS
M5 × 12 P0.8	1.0	13	WVGPH WVGPN WVGPS	10	50	60	70	80	90	100		
M6 × 15 P1.0	1.5	16		13	60	70	80	90	120			
		20		16	70	80	90	100	140			
M8 × 20 P1.25	2.0	25	20	70	80	90	100	140				

Order **Catalog No.** — L
WVGPH 13 — 60

Price **Quotation**

Days to Ship **Quotation**

Alterations **Catalog No.** — L(LC) — (BC-DKC)
WVGPH 13 — LC55 — BC10
Quotation

Ⓢ Use oil-free bushings for pins which were modified by alteration DKC. With oil type bushings, scuffing is more likely to occur because it is difficult to form oil films on them.

Alteration	Code	Spec.	1Code
	LC	L dimension change 30 ≤ LC < L 0.5mm increments Ⓢ To reduce the full length below the specification minimum length, combine with BC as necessary.	Quotation
	BC	B dimension change · WVGPH : 0 ≤ BC ≤ D × 2 · WVGPN : 6 ≤ BC ≤ D × 2 0.5mm increments Ⓢ Cannot be used for WVGPS.	
	DKC	Outer diameter tolerance change D ₀ -0.010 → D ₀ -0.007 D ₀ -0.012 → D ₀ -0.009 Ⓢ The clearance between pin and bushing is 1 ~ 3 μm on each side. Note that only oil-free type bushings can be used.	