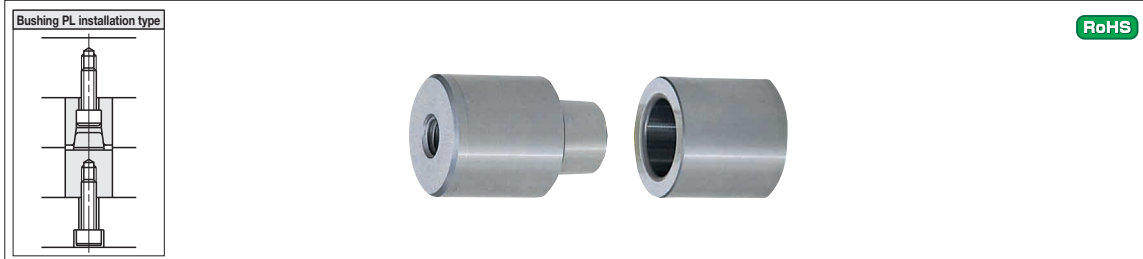


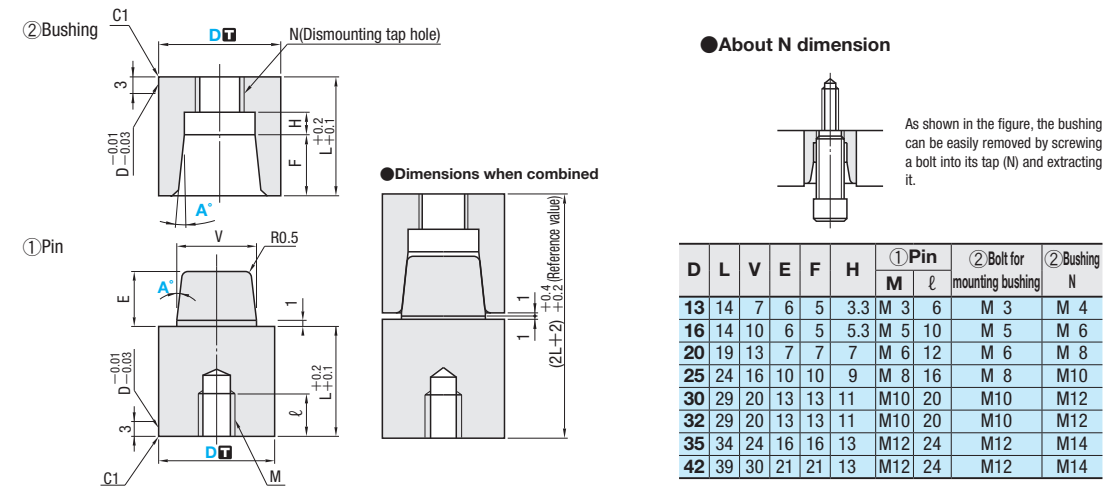
TAPERED PIN SET

—BUSHING PL INSTALLATION TYPE—

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



Group	Part Number			D	Components concentricity of tapered section to the diameter of pin and bushing	M	H
	Set	Pin only	Bushing only				
Standard	TPNC	—	—	D _{k6}	(Match mark type)	SKD11 equivalent	58~62HRC
Precision	TPV	TPVP	TPVB	D ^{+0.005} ₀	0.01 or less		
Extra Precision	VTPV	VTPVP	VTPVB		0.005 or less		
	ZTPV	ZTPVP	ZTPVB		0.003 or less		



■ **Standard** D_{k6} · match mark type

D _{k6}	Part Number Type	D	A°	U/Price 1~9 Set
13	TPNC	13	1	Quotation
16		16		
20		20		
25		25		
30		30		
32	32	3	Quotation	
35	35			
42	42			

■ **Standard** D_{k6} · component concentricity 0.01 or less

D _{k6}	Part Number Type	D	A°	U/Price 1~9 (①+②) Set	① Pin	② Bushing
13	TPV (①+② Set)	13	1	Quotation		
16		16				
20		20				
25		25				
30		30				
32	TPVP (① Pin)	32	3	Quotation		
35		35				
42		42				
32	TPVB (② Bushing)	32	5	Quotation		
35		35				
42		42				

■ **Precision** D^{+0.005}₀ · component concentricity 0.005 or less

D tolerance	Part Number Type	D	A°	U/Price 1~9 (①+②) Set	① Pin	② Bushing
+0.005 0	VTPV (①+② Set)	13	1	Quotation		
		16				
		20				
		25				
		30				
VTPVP (① Pin)	32	3	Quotation			
	35					
	42					
VTPVB (② Bushing)	32	5	Quotation			
	35					
	42					

■ **Extra Precision** D^{+0.005}₀ · component concentricity 0.003 or less

D tolerance	Part Number Type	D	A°	U/Price 1~9 (①+②) Set	① Pin	② Bushing
+0.005 0	ZTPV (①+② Set)	16	1	Quotation		
		20				
		25				
		30				
		35				
ZTPVP (① Pin)	32	3	Quotation			
	35					
	42					
ZTPVB (② Bushing)	32	5	Quotation			
	35					
	42					

- Before using a TPNC(match mark type), align the match marks.
- When selecting a pin independently, use a combination of a pin and bushing of the same accuracy.

Order **Part Number** — **A**
TPNC16 — 3

Price **Quotation**

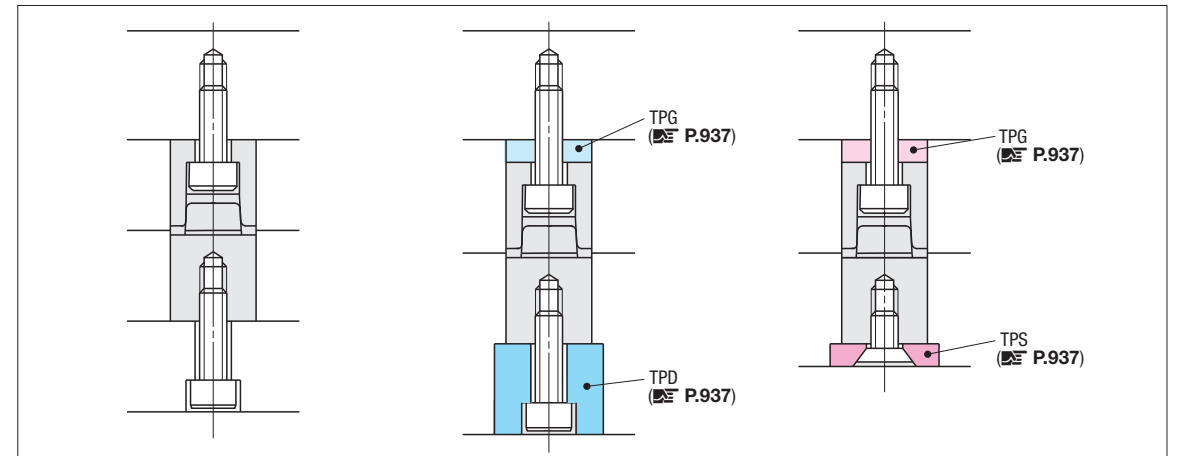
Days to Ship **Quotation**

Alterations **Part Number** — **A** — (PLC · AC · BLK · PLK)
TPNC16 — 3 — PLC12.0-AC-BLK-PLK

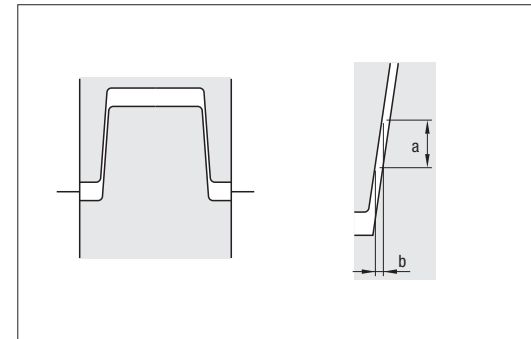
Quotation

Alterations	Code	Spec.	1Code	Alterations	Code	Spec.	1Code
	PLC	Shortens the pin's L dimension. PLC=0.1mm increments L-5≤PLC<L ☎ The tap depth becomes shorter by (L-PLC) ☎ Available also for a set.	Quotation		BLK	Changes the bushing's L dimension tolerance. L ^{+0.2} _{+0.1} → L ^{+0.02} ₀ ☎ Available also for a set. To change the pin length (L) tolerance as well, combine with alteration PLC. ☎ Not applicable to the L dimension tolerance (reference valve) for a set.	Quotation
	AC	Air vent processing (single) 0.3mm deep flat cutting is performed in parallel to the cone angle.			PLK	Changes the pin's L dimension tolerance. L ^{+0.2} _{+0.1} → L ^{+0.02} ₀ ☎ Available also for a set. To change the bushing length (L) tolerance as well, combine with alteration BLK. ☎ Not applicable to the L dimension tolerance (reference valve) for a set.	

How to Mount



When using



When the matching cone angle is large, the height of tapered pin and bushing must be adjusted so that they fit more tightly. On the other hand, it is necessary to take possible sticking of the pin and bushing into consideration when the angle is small. At 1° taper (also 3° taper in some cases), sticking can be avoided by setting them slightly afloat as shown in the figure. When the angle is small, the creep of the height (a in the left drawing) against the width (b in the left drawings) also small so that there is no need to worry about positioning inaccuracies.

{ Value b to error a }

Angled	a	0.1	0.3	0.5
1°		0.0018	0.005	0.009
3°		0.005	0.016	0.026