


# Driving Shafts

## One End Stepped with Shoulder

**Features:** Rotary Shafts suitable for driving motion. Accuracies and shapes needed for rotary driving applications are selectable.

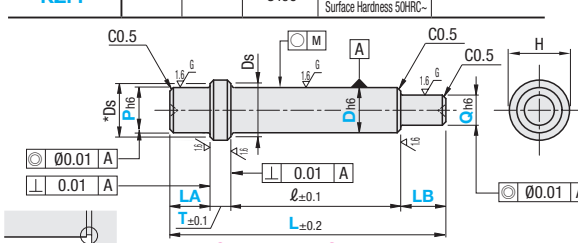


RoHS10

Type	D, P, Q Tolerance	Concentricity	Material	Hardness	Surface Treatment
KZFN	h6	Ø0.01	S45C		-
KZFC					Black Oxide
KZFP					Electroless Nickel Plating
KZFS			SUS304		
KZFF			S45C		Induction Hardened Surface Hardness 50HRC~

D	Tolerance H6	Circularity M
8	0	0.003
10	-0.009	
12, 12A	0	
15	-0.011	
17, 17A	0	
20	0	0.005
25	-0.013	
30	0	
35	0	
40	-0.016	
45	0	

$l = L - (LA + LB + T)$      $LA + LB + T \leq L/2$   
 The shaft may have centering holes on ends.  
 There is an undercut 1.5mm or less in width and 0.3mm or less in depth on the stepped part.  
 \* Ds: Tap dimension of Bearing Inner Race Reference: P991

Part Number Type	0.5mm Increment		Selection	1mm Increment		0.5mm Increment		1mm Increment	0.5mm Increment		H	*Ds
	D	L		P	LA	Q	LB					
<b>KZFN</b>	8	50.0~300.0	5	6~9	4.0~40.0	5~7	4.0~40.0	12	10			
	10		10	8~12	5.0~50.0	7~9	5.0~50.0	13				
	12		15	10~13	5.0~60.0	7~11	5.0~60.0	14				
	12A		20	12~18				16				
	15	100.0~400.0	10	12~18	5.0~75.0	10~14	5.0~75.0	20	18			
	17		15	14~18	5.0~100.0	10~16	5.0~100.0	19				
	17A		20	14~20				21				
	20		25	17~23	14~19	24						
	25	100.0~500.0	10	20~28	10.0~125.0	14~24	10.0~125.0	30	29			
	30		20	25~33	15.0~150.0	20~29	15.0~150.0	35	34			
	35		30	28~38				20~34	40	39		
	40		40	35~47	20~39	48						
	45	50	35~48	20.0~150.0	20~44	20.0~150.0	50	49				

**Ordering Example**    Part Number - L - T - P - LA - Q - LB  
**KZFN30 - 350 - T20 - P30 - LA50 - Q25 - LB30**

### • About KZFF (Induction Hardened)

When alterations on the right-hand page are specified, the shafts are induction hardened (except the threaded sections) after machining.

As a result, these may occur:

- ① Due to thermal conduction to the thread, the threads may be hardened by 2 ~ 3mm.
- ② Induction Hardened may shrink the keyway width (around -0.01 ~ -0.02). If the key becomes hard to fit, adjust it by gauging.

Type	KZFN					KZFC					KZFP				
	Min. L	L100.5	L200.5	L300.5	L400.5	Min. L	L100.5	L200.5	L300.5	L400.5	Min. L	L100.5	L200.5	L300.5	L400.5
D	~100.0	~200.0	~300.0	~400.0	~500.0	~100.0	~200.0	~300.0	~400.0	~500.0	~100.0	~200.0	~300.0	~400.0	~500.0
8															
10															
12															
12A															
15															
17															
17A															
20															
25															
30															
35															
40															
45															

Type	KZFS					KZFF				
	Min. L	L100.5	L200.5	L300.5	L400.5	Min. L	L100.5	L200.5	L300.5	L400.5
D	~100.0	~200.0	~300.0	~400.0	~500.0	~100.0	~200.0	~300.0	~400.0	~500.0
8										
10										
12										
12A										
15										
17										
17A										
20										
25										
30										
35										
40										
45										