


Driving Shafts

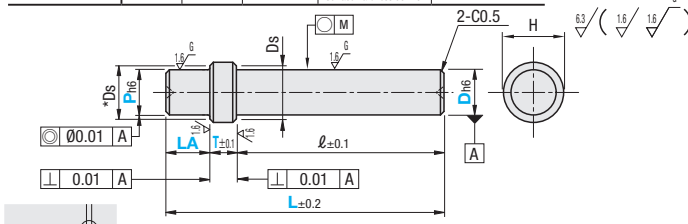
Shouldered

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



Type	D, P Tolerance	Concentricity	Material	Hardness	Surface Treatment
KZEN	h6	Ø0.01	S45C		-
KZEC					Black Oxide
KZEP			Electroless Nickel Plating		
KZES			-		
KZEF			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	



Ⓜ Ø0.01 A
 Ⓜ L 0.01 A
 Ⓜ L±0.2 A
 Ⓜ L±0.1
 Ⓜ T±0.1
 Ⓜ LA

Ⓜ 6.3
 Ⓜ 1.6
 Ⓜ 1.6
 Ⓜ G

Ⓜ 2-C0.5
 Ⓜ H
 Ⓜ Ds
 Ⓜ P
 Ⓜ h6
 Ⓜ D12
 Ⓜ M
 Ⓜ A
 Ⓜ Relief Groove

Ⓜ ⌀=L-(LA+T) Ⓜ LA+T<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: P.991](#)

Part Number Type	0.5mm Increment		Selection	1mm Increment		H	*Ds
	D	L		P	LA		
KZEN KZEC KZEP KZES KZEF	8	50.0~300.0	5	6~9	4.0~40.0	12	10
	10		10	8~12	5.0~50.0	15	13
	12		15	10~13	5.0~60.0	15	14
	12A		20	12~18			
	15	100.0~400.0	10	12~18	5.0~75.0	20	18
	17		15	14~18	5.0~100.0	25	19
	17A		20	14~20			
	20		25	17~23			
	25	100.0~500.0	10	20~28	10.0~125.0	30	29
	30		20	25~33	15.0~150.0	35	34
	35		30	28~38			
	40		40	35~47	20.0~150.0	50	48
	45	50	35~48				

Ordering Example **Part Number** - **L** - **T** - **P** - **LA**

KZEN30 - 350 - T20 - P25 - LA50

• About KZEF (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:

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

Type	KZEN					KZEC					KZEP				
	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	KZES					KZEF				
	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										