

KE Inch Series

Self-Centering Keyless Locking Power

POWER-LOCK® KE is a self-centering keyless locking device for connecting hubs and shafts. Use KE Series to lock on A-type sprockets and narrow gears. Pre-centering is not required.

1. Self-Centering

Ideal for A-type sprockets and narrow gears, POWER-LOCK KE actually strengthens the shaft. Pre-centering is not required.

2. Strong, Long-Lasting Performance

POWER-LOCK KE has been tested in hundreds of applications. It offers high durability against reversing or impacting loads.

3. Precise Locking

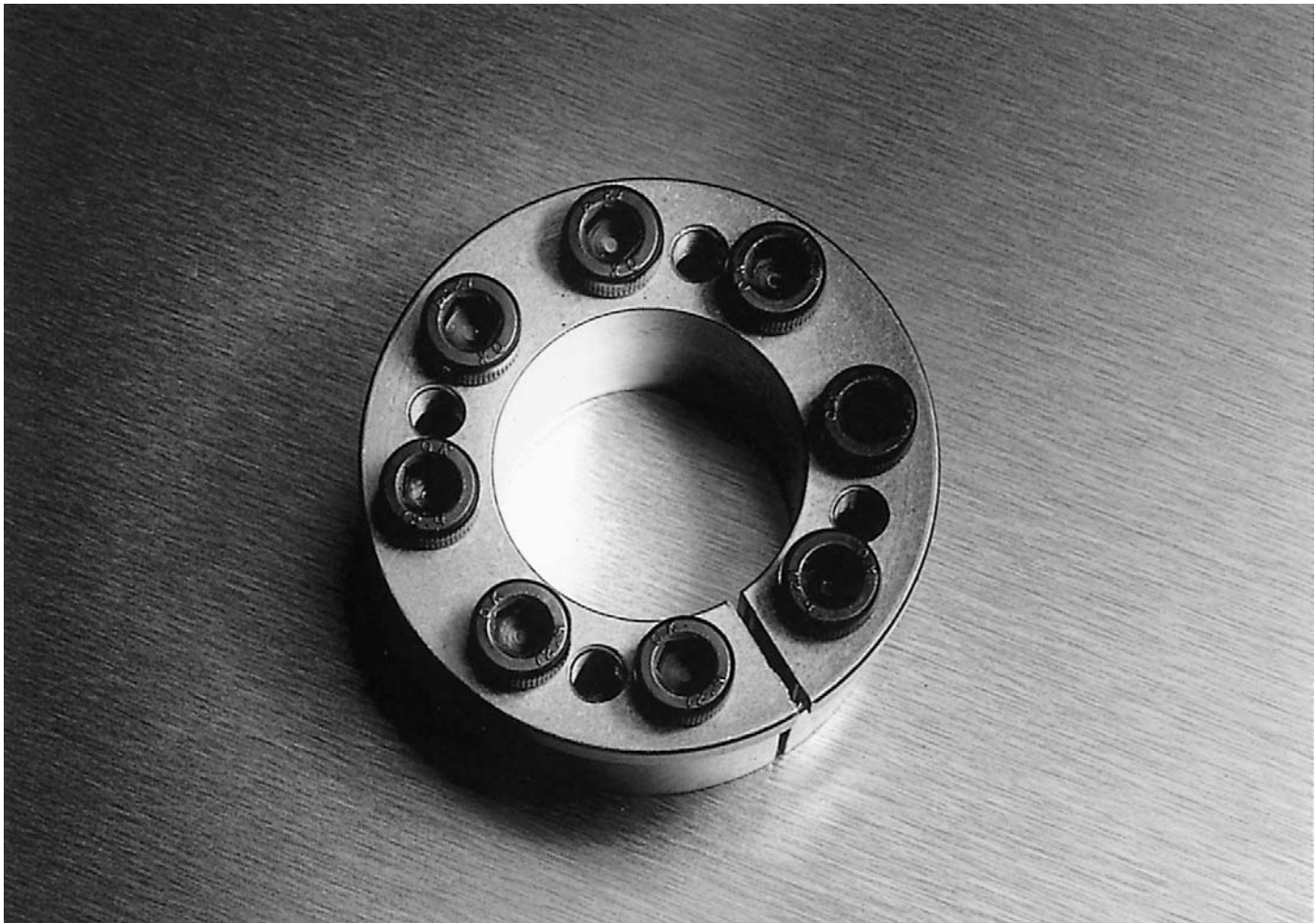
Features a single-taper design with a shallow taper angle that maintains concentricity when you tighten the locking bolts.

4. Wide Tolerance for Shafts

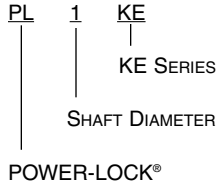
POWER-LOCK KE is designed with a slit construction to yield a wider tolerance of shaft sizes, such as motor shafts.

5. Range of Sizes Available

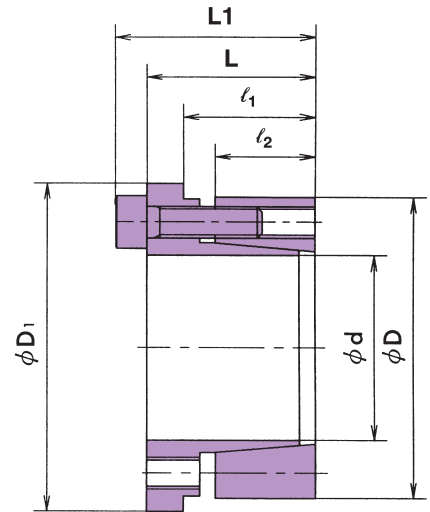
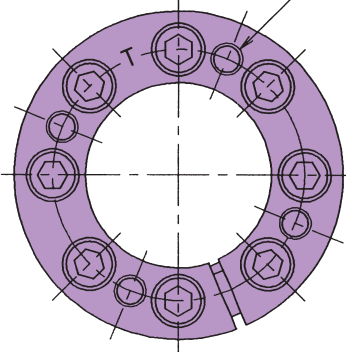
Available in a variety of sizes, including fractional inch sizes for smaller motors or sensors. No costly machining.



MODEL NUMBER



Jack Screw Holes for Removal



KE Inch Series POWER-LOCK® Specifications

Model Number	Shaft O.D.			O.D. of KE	Hub Counter I.D.		Length (inches)				Transmissible Torque & Thrust		Contact Pressure psi		Locking Bolts		Approx. Weight lbs.	
	d	Tolerance t ₁	* Special Tolerance t ₉₀ Mt & Pax		D ₁	D	Tolerance t ₂	L1	L	l ₁	l ₂	Torque Mt ft./lbs.	Thrust Pax lbs.	Shaft P	Hub Bore P'	Qty.		Size
PL 3/8 KE	0.3750	+0.0006 -0.0009	+0.0006 -0.0023	1.0625	0.9375	-0+.0013	0.807	0.650	0.563	0.394	22	1,339	28,261	11,304	3	M4X12	3.5	0.09
PL 1/2 KE	0.5000	+0.0007	+0.0007	1.1875	1.0625	-0+.0013	0.807	0.650	0.563	0.394	39	1,784	28,261	13,333	4	M4X12	3.5	0.11
PL 5/8 KE	0.6250	-0.0011	-0.0028	1.3125	1.1875	-0+.0015	0.965	0.807	0.688	0.472	74	2,679	28,261	14,928	6	M4X16	3.5	0.15
PL 3/4 KE	0.7500	+0.0008	+0.0008	1.4375	1.3125	-0+.0015	0.965	0.807	0.688	0.472	89	2,679	23,623	13,478	6	M4X16	3.5	0.18
PL 7/8 KE	0.8750	-0.0013	-0.0033	1.7500	1.5625	-0+.0015	1.181	0.984	0.813	0.591	169	4,375	26,377	14,783	6	M5X20	7.2	0.33
PL1 KE	1.0000			1.8750	1.6875	-0+.0015	1.181	0.984	0.813	0.591	258	5,834	30,870	18,261	8	M5X20	7.2	0.35
PL1 1/8 KE	1.1250			2.0000	1.8750	-0+.0015	1.299	1.102	0.938	0.669	326	6,562	27,246	16,377	9	M5X20	7.2	0.49
PL1 1/16 KE	1.1875	+0.0010	+0.0010	2.0625	1.9375	-0+.0015	1.299	1.102	0.938	0.669	382	7,292	28,551	17,536	10	M5X20	7.2	0.51
PL1 1/4 KE	1.2500	-0.0015	-0.0039	2.1250	2.0000	-0+.0018	1.299	1.102	0.938	0.669	402	7,292	27,246	16,957	10	M5X20	7.2	0.53
PL1 3/8 KE	1.3750			2.2500	2.1250	-0+.0018	1.299	1.102	0.938	0.669	443	7,292	24,783	15,942	10	M5X20	7.2	0.57
PL1 7/16 KE	1.4375			2.5000	2.3125	-0+.0018	1.496	1.260	1.063	0.748	523	8,232	23,913	14,783	8	M6X25	12.3	0.84
PL1 1/2 KE	1.5000			2.5625	2.3750	-0+.0018	1.496	1.260	1.063	0.748	682	10,290	28,551	18,116	10	M6X25	12.3	0.86
PL1 5/8 KE	1.6250			2.6875	2.5000	-0+.0018	1.496	1.260	1.063	0.748	738	10,290	26,377	17,102	10	M6X25	12.3	0.93
PL1 11/16 KE	1.6875			2.7500	2.5625	-0+.0018	1.496	1.260	1.063	0.748	767	10,290	25,362	16,812	10	M6X25	12.3	0.95
PL1 3/4 KE	1.7500			2.8125	2.6250	-0+.0018	1.496	1.260	1.063	0.748	795	10,290	24,493	16,377	10	M6X25	12.3	0.97
PL1 7/8 KE	1.8750			2.9375	2.7500	-0+.0018	1.496	1.260	1.063	0.748	1,022	12,349	27,391	18,696	12	M6X25	12.3	1.04
PL1 15/16 KE	1.9375			3.0000	2.8125	-0+.0018	1.496	1.260	1.063	0.748	1,144	13,378	28,841	19,855	13	M6X25	12.3	1.06
PL2 KE	2.0000	+0.0012	+0.0012	3.0625	2.8750	-0+.0018	1.594	1.358	1.125	0.748	1,181	13,378	27,826	19,420	13	M6X25	12.3	1.13
PL2 1/8 KE	2.1250	-0.0018	-0.0047	3.1875	3.0000	-0+.0018	1.594	1.358	1.125	0.748	1,351	14,405	28,261	20,000	14	M6X25	12.3	1.19
PL2 1/4 KE	2.1875			3.2500	3.0625	-0+.0018	1.594	1.358	1.125	0.748	1,391	14,405	27,391	19,565	14	M6X25	12.3	1.21
PL2 3/8 KE	2.2500			3.3125	3.1250	-0+.0018	1.594	1.358	1.125	0.748	1,431	14,405	26,667	19,275	14	M6X25	12.3	1.24
PL2 1/2 KE	2.3750			3.4375	3.2500	-0+.0021	1.594	1.358	1.125	0.748	1,618	15,434	27,102	19,855	15	M6X25	12.3	1.30
PL2 5/8 KE	2.4375			3.5000	3.3125	-0+.0021	1.594	1.358	1.125	0.748	1,661	15,434	26,377	19,420	15	M6X25	12.3	1.32
PL2 3/4 KE	2.5000			3.5625	3.3750	-0+.0021	1.594	1.358	1.125	0.748	1,703	15,434	25,797	19,130	15	M6X25	12.3	1.35
PL2 7/8 KE	2.6250			3.6875	3.5000	-0+.0021	1.594	1.358	1.125	0.748	1,789	15,434	24,493	18,406	15	M6X25	12.3	1.41
PL2 15/16 KE	2.6875			3.9375	3.7500	-0+.0021	1.909	1.594	1.250	0.866	2,708	22,814	30,580	22,319	12	M8X30	29.7	2.01
PL2 3/4 KE	2.7500			4.0000	3.8125	-0+.0021	1.909	1.594	1.250	0.866	2,770	22,814	29,855	21,594	12	M8X30	29.7	2.21
PL2 7/8 KE	2.8750			4.1250	3.9375	-0+.0021	1.909	1.594	1.250	0.866	2,896	22,814	28,551	20,870	12	M8X30	29.7	2.30
PL2 15/16 KE	2.9375			4.1875	4.0000	-0+.0021	1.909	1.594	1.250	0.866	2,959	22,814	27,971	20,580	12	M8X30	29.7	2.34
PL3 KE	3.0000			4.1875	4.0625	-0+.0021	1.909	1.594	1.250	0.866	3,022	22,814	27,391	20,290	12	M8X30	29.7	2.36
PL3 3/8 KE	3.3750	+0.0014	+0.0014	4.6250	4.4375	-0+.0021	1.949	1.634	1.313	0.866	3,967	26,619	28,406	21,594	14	M8X30	29.7	2.69
PL3 7/8 KE	3.4375	-0.0021	-0.0055	4.6875	4.5000	-0+.0021	1.949	1.634	1.313	0.866	4,041	26,619	27,826	21,304	14	M8X30	29.7	2.74
PL3 1/2 KE	3.5000			5.0000	4.7500	-0+.0025	2.520	2.126	1.688	1.142	6,532	42,265	33,044	24,348	14	M10X40	60.0	4.39
PL3 3/4 KE	3.7500			5.2500	5.0625	-0+.0025	2.520	2.126	1.688	1.142	6,999	42,265	30,725	22,754	14	M10X40	60.0	4.92
PL3 15/16 KE	3.9375			5.5000	5.2500	-0+.0025	2.520	2.126	1.688	1.142	7,348	42,265	28,275	22,029	14	M10X40	60.0	5.14
PL4 KE	4.0000			5.5000	5.3125	-0+.0025	2.520	2.126	1.688	1.142	7,465	42,265	28,841	21,739	14	M10X40	60.0	5.21

* When you apply this wider tolerance to your shaft, transmissible torque Mt and Thrust Pax will be 90% of the rating.

KE Inch Series

Calculate the minimum hub diameter using the following formula. (This does not apply to nonferrous metals.)

$$\begin{aligned} \text{Y.P. (hub)} &\geq 1.2 P' \\ \text{Y.P. (shaft)} &\geq 1.2 P \end{aligned}$$

$$\text{Min. hub dia. } D_N \geq D \sqrt{\frac{\text{Y.P.} + K_3 \cdot P'}{\text{Y.P.} - K_3 \cdot P'}}$$

Where

P' = Surface pressure on hub (psi)
 P = Surface pressure on shaft (psi)
 B = Length thru hub or sprocket
 Y.P. = Yield point of hub material (psi)

$$K_3 = 0.8 \quad B \geq 2 \cdot \ell_2$$

(Use table below.)

$$K_3 = 1.0 \quad \ell_1 \leq B < 2 \cdot \ell_2$$

(Use table on the following page.)

ℓ_1 and ℓ_2 are defined in the drawing on the previous page. If $B < \ell_1$, consult the Engineering Department of the Power Transmission Group of U.S. Tsubaki.

Min. Hub Dia. (D_N in inches) $K_3 = 0.8$

Model Number		Yield Point of Various Hub Material Y.P. (psi) Y.P. = $\sigma_{0.2}$						
		32,000	35,000	40,000	45,000	50,000	56,000	
		Class No. 40 Grade No. 60-30	Class No. 50 Grade No. 65-35	Class No. 60 Grade No. 40010	Grade No. 45006	Grade No. 50005 Grade No. 80-65	Grade No. 50005	
PL	$\frac{3}{8}$ KE	11,304	1.2535	1.2212	1.1800	1.1493	1.1256	1.1034
PL	$\frac{1}{2}$ KE	13,333	1.5026	1.4555	1.3964	1.3529	1.3195	1.2885
PL	$\frac{5}{8}$ KE	14,928	1.7577	1.6944	1.6157	1.5585	1.5150	1.4747
PL	$\frac{3}{4}$ KE	13,478	1.8637	1.8046	1.7303	1.6758	1.6340	1.5951
PL	$\frac{7}{8}$ KE	14,783	2.3030	2.2211	2.1192	2.0450	1.9885	1.9361
PL1	KE	18,261	2.7626	2.6321	2.4748	2.3633	2.2800	2.2040
PL1	$\frac{1}{8}$ KE	16,377	2.8966	2.7789	2.6345	2.5305	2.4520	2.3797
PL1	$\frac{3}{16}$ KE	17,536	3.1008	2.9625	2.7945	2.6748	2.5849	2.5027
PL1	$\frac{1}{4}$ KE	16,957	3.1444	3.0105	2.8470	2.7299	2.6417	2.5608
PL1	$\frac{3}{8}$ KE	15,942	3.2404	3.1134	2.9569	2.8439	2.7583	2.6794
PL1	$\frac{7}{16}$ KE	14,783	3.4085	3.2872	3.1364	3.0266	2.9430	2.8655
PL1	$\frac{1}{2}$ KE	18,116	3.8703	3.6896	3.4714	3.3166	3.2008	3.0951
PL1	$\frac{5}{8}$ KE	17,102	3.9479	3.7779	3.5705	3.4221	3.3104	3.2080
PL1	$\frac{11}{16}$ KE	16,812	4.0110	3.8422	3.6358	3.4878	3.3762	3.2738
PL1	$\frac{3}{4}$ KE	16,377	4.0552	3.8905	3.6882	3.5427	3.4328	3.3316
PL1	$\frac{7}{8}$ KE	18,696	4.5646	4.3416	4.0738	3.8849	3.7441	3.6158
PL1	$\frac{15}{16}$ KE	19,855	4.8480	4.5886	4.2814	4.0670	3.9084	3.7649
PL2	KE	19,420	4.8852	4.6326	4.3317	4.1210	3.9646	3.8227
PL2	$\frac{1}{8}$ KE	20,000	5.1962	4.9151	4.5826	4.3510	4.1798	4.0249
PL2	$\frac{3}{16}$ KE	19,565	5.2286	4.9551	4.6300	4.4026	4.2340	4.0811
PL2	$\frac{1}{4}$ KE	19,275	5.2849	5.0147	4.6924	4.4662	4.2983	4.1458
PL2	$\frac{3}{8}$ KE	19,855	5.6021	5.3024	4.9474	4.6997	4.5164	4.3505
PL2	$\frac{7}{16}$ KE	19,420	5.6286	5.3375	4.9909	4.7481	4.5679	4.4044
PL2	$\frac{1}{2}$ KE	19,130	5.6809	5.3937	5.0506	4.8095	4.6302	4.4674
PL2	$\frac{5}{8}$ KE	18,406	5.7561	5.4812	5.1501	4.9159	4.7410	4.5815
PL2	$\frac{11}{16}$ KE	22,319	7.0403	6.5843	6.0613	5.7064	5.4484	5.2180
PL2	$\frac{3}{4}$ KE	21,594	6.9743	6.5474	6.0526	5.7139	5.4664	5.2444
PL2	$\frac{7}{8}$ KE	20,870	7.0237	6.6172	6.1416	5.8133	5.5721	5.3550
PL2	$\frac{15}{16}$ KE	20,580	7.0648	6.6651	6.1955	5.8705	5.6312	5.4153
PL3	KE	20,290	7.1051	6.7120	6.2487	5.9269	5.6895	5.4751
PL3	$\frac{3}{8}$ KE	21,594	8.1176	7.6207	7.0448	6.6506	6.3625	6.1041
PL3	$\frac{7}{16}$ KE	21,304	8.1486	7.6609	7.0935	6.7037	6.4183	6.1618
PL3	$\frac{1}{2}$ KE	24,348	9.6311	8.8989	8.0866	7.5500	7.1666	6.8286
PL3	$\frac{3}{4}$ KE	22,754	9.6570	9.0099	8.2726	7.7749	7.4144	7.0933
PL3	$\frac{15}{16}$ KE	22,029	9.7537	9.1361	8.4248	7.9403	7.5874	7.2716
PL4	KE	21,739	9.7682	9.1365	8.4641	7.9861	7.6372	7.3245

D - PT COMPONENTS



Min. Hub Dia. (D_N in inches)

$K_3 = 1.0$

Model Number	Contact Pressure in the Hub Bore P' lbs./inch ²	Yield Point of Various Hub Material Y.P. (psi) $Y.P. = \sigma_{0.2}$					
		32,000	35,000	40,000	45,000	50,000	56,000
		Class No. 40 Grade No. 60-30	Class No. 50 Grade No. 65-35	Class No. 60 Grade No. 40010	Grade No. 45006	Grade No. 50005 Grade No. 80-65	Grade No. 50005 Grade No. 1040, 1045 1137, 1141 1144
PL 3/8 KE	11,304	1.3561	1.3105	1.2535	1.2119	1.1800	1.1504
PL 1/2 KE	13,333	1.6558	1.5869	1.5026	1.4421	1.3964	1.3544
PL 5/8 KE	14,928	1.9688	1.8729	1.7577	1.6764	1.6157	1.5605
PL 3/4 KE	13,478	2.0566	1.9698	1.8637	1.7877	1.7303	1.6777
PL 7/8 KE	14,783	2.5756	2.4519	2.3030	2.1978	2.1192	2.0476
PL1 KE	18,261	3.2276	3.0101	2.7626	2.5956	2.4748	2.3672
PL1 1/8 KE	16,377	3.2294	3.1143	2.8966	2.7457	2.6345	2.5341
PL1 3/16 KE	17,536	3.5856	3.3605	3.1008	2.9236	2.7945	2.6789
PL1 1/4 KE	16,957	3.6080	3.3939	3.1444	2.9728	2.8470	2.7340
PL1 3/8 KE	15,942	3.6717	3.4742	3.2404	3.0774	2.9569	2.8478
PL1 7/16 KE	14,783	3.8119	3.6288	3.4085	3.2527	3.1364	3.0305
PL1 1/2 KE	18,116	4.5123	4.2125	3.8703	3.6390	3.4714	3.3219
PL1 5/8 KE	17,102	4.5386	4.2655	3.9479	3.7300	3.5705	3.4272
PL1 11/16 KE	16,812	4.5939	4.3250	4.0110	3.7946	3.6358	3.4929
PL1 3/4 KE	16,377	4.6192	4.3600	4.0552	3.8439	3.6882	3.5478
PL1 7/8 KE	18,696	5.3682	4.9906	4.5646	4.2794	4.0738	3.8914
PL1 15/16 KE	19,855	5.8115	5.3526	4.8480	4.5169	4.2814	4.0744
PL2 KE	19,420	5.8125	5.3732	4.8852	4.5624	4.3317	4.1282
PL2 1/8 KE	20,000	6.2450	5.7446	5.1962	4.8374	4.5826	4.3589
PL2 3/16 KE	19,565	6.2364	5.7581	5.2286	4.8793	4.6300	4.4104
PL2 1/4 KE	19,275	6.2730	5.8057	5.2849	4.9396	4.6924	4.4740
PL2 3/8 KE	19,855	6.7155	6.1852	5.6021	5.2195	4.9474	4.7082
PL2 7/16 KE	19,420	6.6970	6.1909	5.6286	5.2567	4.9909	4.7564
PL2 1/2 KE	19,130	6.7270	6.2331	5.6809	5.3138	5.0506	4.8177
PL2 5/8 KE	18,406	6.7396	6.2790	5.7561	5.4043	5.1501	4.9239
PL2 11/16 KE	22,319	8.8827	7.9727	7.0403	6.4605	6.0613	5.7184
PL2 3/4 KE	21,594	8.6522	7.8333	6.9743	6.4308	6.0526	5.7254
PL2 7/8 KE	20,870	8.5818	7.8296	7.0237	6.5056	6.1416	5.8245
PL2 15/16 KE	20,580	8.5830	7.8530	7.0648	6.5550	6.1955	5.8816
PL3 KE	20,290	8.5847	7.8761	7.1051	6.6036	6.2487	5.9379
PL3 3/8 KE	21,594	10.0706	9.1175	8.1176	7.4850	7.0448	6.6640
PL3 7/16 KE	21,304	10.0457	9.1240	8.1486	7.5274	7.0935	6.7170
PL3 1/2 KE	24,348	12.8898	11.2119	9.6311	8.7042	8.0866	7.5680
PL3 3/4 KE	22,754	12.3196	10.9941	9.6570	8.8350	8.2726	7.7917
PL3 15/16 KE	22,029	12.2209	11.0083	9.7537	8.9681	8.4248	7.9567
PL4 KE	21,739	12.1576	10.9888	9.7682	8.9986	8.4641	8.0024