

RANSOME Series

Ball Screw Elevation 2.5 ton to 10 ton



The Powered Elevation design makes maximum use of commercially available components, both in the elevation and rotation systems.

Elevation is by means of commercial ball screw jacks for high duty cycle operation and driven by a worm/wormgear arrangement. The elevation axis uses two of these screw jacks for redundancy by coupling them together, and then they are driven by a common motor. Belts, chains, and transfer gears are no longer utilized in the design.

Guidance is provided by means of wide, large diameter cam follower bearings on flat guide-ways. Cam follower contact with the guide-ways is adjustable for wear. Guidance is provided on the front, back, and sides of two columns that rigidly support the cantilevered load.

Headstock and Tailstock axes on Koike Aronson Ransome systems are electronically synchronized to prevent workpiece / fixture skewing. Both axes are driven by an encoded motor which is controlled by a drive with internal PLC capabilities. Encoder information from both axes is fed to the Tailstock drive. The Tailstock encoder provides closed-loop position information to the Tailstock drive, which, in turn, follows the reference signal from the Headstock encoder. The Headstock drive and motor respond to commands from the operator control pendant (or optionally a supervisory programmable control system). When the Headstock moves, the Tailstock automatically follows, step-for-step, based upon encoder feedback. If any errors are detected internally or from external devices by either drive, the system will immediately halt to prevent

**Capacities from 5,000 to 20,000 pounds
between Headstock and Tailstock**



KOIKE ARONSON, INC. / RANSOME

Features

- **Low efficiency gear-boxes for safety**
- **Ball screw jacks for high duty cycles**
- **Machined tables**
- **Low voltage hand control pendants**
- **50:1 AC Variable speed drives**
- **Boots on elevation jacks protect screws from debris**



**Standard hand pendant
provided with all models**



**Optional foot switch
controls available**

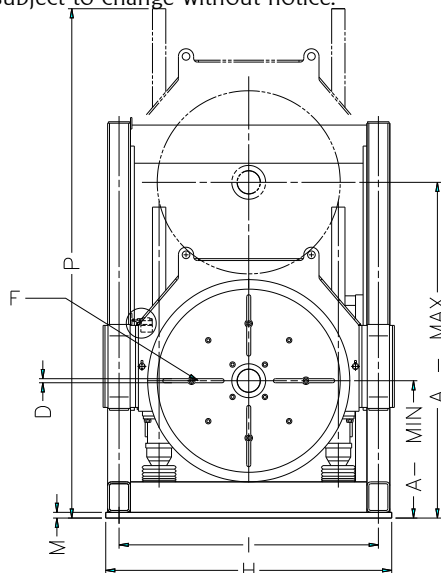
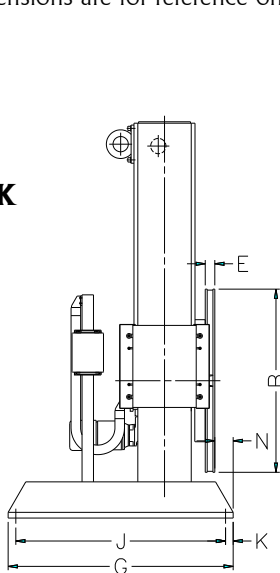
Specifications

2H/2T-PE to 5H/5T-PE

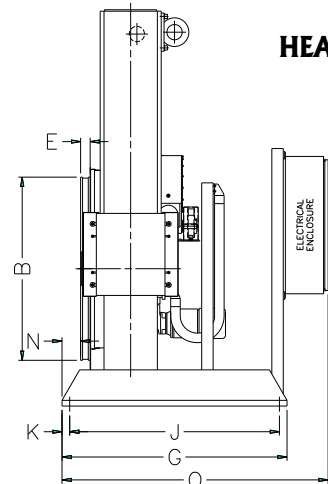
MODEL	2H/2T-PE	3H/3T-PE	3.5H/3.5T-PE	4H/4T-PE	4.5H/4.5T-PE	5H/5T-PE
Load Capacity, lb (kg) Max. Between Head & Tail	5,000 lb (2268)	6,000 lb (2722)	9,000 lb (4082)	12,000 lb (5443)	16,000 lb (7257)	20,000 lb (9072)
12" CG Height	2,500 (1134)	3,000 (1361)	4,500 (2041)	6,000 (2722)	8,000 (3629)	10,000 (4536)
18" CG Height	2,030 (921)	2,300 (1043)	3,700 (1678)	4,980 (2259)	6,000 (2722)	8,400 (3810)
24" CG Height	1,710 (776)	1,900 (862)	3,100 (1406)	4,260 (1932)	4,800 (2177)	7,200 (3266)
30" CG Height	1,470 (667)	1,600 (726)	2,700 (1225)	3,720 (1687)	4,000 (1814)	6,300 (2858)
36" CG Height	1,295 (587)	1,400 (635)	2,400 (1089)	3,300 (1497)	3,400 (1542)	5,600 (2540)
42" CG Height	1,155 (524)	1,200 (544)	2,200 (998)	2,970 (998)	3,000 (1361)	5,100 (2313)
Rotation: Torque, in-lb (N.m)	30,000 (3390)	36,000 (4068)	54,000 (6102)	72,000 (8136)	96,000 (10848)	120,000 (13560)
Rotation: Speed Range Motor HP (AC variable Frequency)	1.0 - 0.02 rpm 1	1.0 - 0.02 rpm 1-1/2	1.0 - 0.02 rpm 2	0.92 - 0.01 rpm 2	1.0 - 0.02 rpm 3	1.0 - 0.02 rpm 5
Pendant cable length	20'	20'	20'	20'	20'	20'
Ground current (Amps)	1500	1500	2000	2000	2000	2000
A: CL height Range In(mm) Elevation speed ipm(mm/min) Motor HP (Qty 2)	22"-52" (559-1321) 22 ipm (559) 1-1/2	22.25"-52.25" 23 ipm (559) 2	22.25"-52.25" 23 ipm (559) 2	26"-56" (660-1422) 27 ipm (686) 2	27-1/2"-79-1/2" (699-2019) 20 ipm (508) 2	27-1/2"-79-1/2" (699-2019) 20 ipm (508) 2
B: Table Size (Round) C: Max. Clamping Dia. D: No. of slots and width E: Table Thickness Pilot hole and Depth Through-hole F: Table nut thread	36"(914) 33" (838) (4) 13/16" (21) 7/8" (22) 2.252" x 3/4" 2" Through 3/4"-10	40"(1016) 37" (940) (4) 13/16" (21) 7/8" (22) 2.252" x 3/4" 2" Through 3/4"-10	40"(1016) 37" (940) (4) 13/16" (21) 7/8" (22) 2.252" x 3/4" 2" Through 3/4"-10	48"(1219) 45" (1143) (4) 13/16" (21) 7/8" (22) 6.00" x 1/2" 2-3/4" Through 3/4"-10	48"(1219) 45" (1143) (4) 1-1/8" (29) 7/8" (22) 6.00" x 2" 5-1/2" Through 1"-8	48"(1219) 45" (1143) (4) 1-1/8" (29) 7/8" (22) 6.125" x 3" 6" Through 1"-8
Dim G	47-1/2" (1207)	47-1/2" (1207)	47-1/2" (1207)	47-1/2" (1207)	47-1/2" (1207)	47-1/2" (1207)
Dim H	58" (1473)	58" (1473)	58" (1473)	58" (1473)	62" (1575)	62" (1575)
Dim I	52" (1321)	52" (1321)	52" (1321)	52" (1321)	56" (1422)	56" (1422)
Dim J	43-1/2" (1105)	43-1/2" (1105)	43-1/2" (1105)	43-1/2" (1105)	43-1/2" (1105)	43-1/2" (1105)
Dim K	2" (51)	2" (51)	2" (51)	2" (51)	2" (51)	2" (51)
Dim L	7/8" (22)	7/8" (22)	7/8" (22)	7/8" (22)	7/8" (22)	7/8" (22)
Dim M	2" (51)	2" (51)	2" (51)	2" (51)	2" (51)	2" (51)
Dim N	14-9/16" (370)	8-9/16" (217)	8-9/16" (217)	4-13/16" (122)	4-1/16" (103)	4-1/16" (103)
Dim O	58-5/8" (1489)	60-5/8" (1538)	55-1/2" (1410)	53-3/8" (1356)	53-3/8" (1356)	53-3/8" (1356)
Dim P (Max overall height)	80" (2032)	80" (2032)	80" (2032)	86" (2184)	124-1/2" (3150)	124-1/2" (3150)
Approx. Weight HS lb (kg)	3,240 (1470)	3,335 (1513)	3,512 (1293)	3,687 (1672)	5,500 (2495)	5,986 (2715)
Approx. Weight TS lb (kg)	2,732 (1239)	2,845 (1290)	3,296 (1495)	3,534 (1602)	5,780 (2622)	5,443 (2469)
Standard Voltage	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60

All dimensions are for reference only and subject to change without notice.

TAILSTOCK



HEADSTOCK



RANSOME Series

Ball Screw Elevation 16 ton to 80 ton



The Powered Elevation design makes maximum use of proven commercially available components, both in the elevation and guidance systems. Elevation is provided by means of commercial Ball screw jacks for high duty cycle operation and driven by a worm/wormgear arrangement. Elevation uses two of these screw jacks for redundancy, coupled together and driven by a common motor. Belts, chains, and transfer gears are no longer utilized in the design.

Guidance is provided by means of wide, large diameter cam follower bearing on flat guide-ways or linear ways. Cam follower contact with the guide-ways is adjustable for wear. Guidance is provided on the front, back, and sides of two columns that rigidly supports the cantilevered load.

Headstock and Tailstock axes on Koike Aronson Ransome systems are electronically synchronized to prevent workpiece / fixture skewing. Both axes are driven by an encoded motor, controlled by a drive with internal PLC capabilities. Encoder information from both axes is fed back to the Tailstock drive. The Tailstock encoder provides closed-loop position information to the Tailstock drive, which in turn, follows the reference signal from the Headstock encoder.

The Headstock drive and motor respond to commands from the operator control pendant (or optionally a supervisory programmable control system). When the Headstock moves, the Tailstock automatically follows, step-for-step, based upon encoder feedback. If any errors are detected internally, or from external devices by either drive, the system will immediately halt to prevent workpiece/fixture skewing.

**Capacities from 32,000 to 160,000 pounds
between Headstock and Tailstock**

Features

- Low efficiency gear-boxes for safety
- Ball screw jacks for high duty cycles
- Machined tables
- Low voltage hand control pendants
- 50:1 AC Variable speed drives
- Boots on elevation jacks protect screws from debris



**Standard hand pendant
provided with all models**



**Optional foot switch
controls available**



KOIKE ARONSON, INC. / RANSOME

Specifications

6H/6T-PE to 16H/16T-PE

MODEL	6H/6T-PE	7H/7T-PE	8H/8T-PE	10H/10T-PE	16H/16T-PE
Load Capacity, lb (kg) Max. Between Head & Tail	32,000 lb (14515)	50,000 lb (22680)	80,000 lb (36287)	100,000 lb (45359)	160,000 lb (72575)
12" CG Height	16,000 (7257)	25,000 (11340)	40,000 (18144)	50,000 (22680)	80,000 (36287)
18" CG Height	12,900 (5851)	18,900 (8573)	30,700 (13608)	37,250 (16896)	70,900 (32160)
24" CG Height	10,800 (4899)	15,200 (6895)	25,000 (11340)	29,650 (13449)	63,700 (28894)
30" CG Height	9,300 (4218)	12,750 (5783)	21,000 (9525)	24,650 (11181)	57,850 (26240)
36" CG Height	8,150 (3697)	10,950 (4967)	18,200 (8255)	21,100 (9571)	52,950 (24018)
42" CG Height	7,250 (3289)	9,600 (4354)	16,000 (7257)	18,450 (8369)	48,800 (22135)
Rotation: Torque, in-lb (N.m)	192,000 (21696)	288,000 (32544)	480,000 (54240)	600,000 (67800)	960,000 (108480)
Rotation: Speed Range	0.50 - 0.01 rpm	0.50 - 0.01 rpm	0.32 - 0.006 rpm	0.30 - 0.006 rpm	0.30 - 0.006 rpm
Motor HP (AC variable Frequency)	5	7.5	7.5	10	15
Pendant cable length	20'	20'	20'	20'	20'
Ground current (Amps)	2000	2000	3000	3000	3000
A: CL height Range In(mm)	36"-88" (914-2235)	36"-88" (914-2235)	41-5/8"-101-5/8" (1057-2581)	54"-106" (1372-2692)	59"-119" (1499-3023)
Elevation speed ipm(mm/min)	20 ipm (508)	20 ipm (508)	20 ipm (508)	11 ipm (279)	11 ipm (279)
Motor HP (Qty 2)	3	3	6.4	5	5
B: Table Size (Round)	48"(1219)	60"(1524)	60"(1524)	72"(1829)	72"(1829)
C: Max. Clamping Dia.	44" (1118)	57" (1448)	57" (1448)	68" (1727)	68" (1727)
D: No. of slots and width	(4) 1-1/16" (27)	(4) 1-1/16" (27)	(4) 1-5/16" (33.3)	(4) 1-5/16" (33)	(4) 1-5/16" (33)
E: Table Thickness	2-1/2" (63.5)	2-3/4" (70)	3" (76)	3" (76)	3" (76)
Pilot hole and Depth	6.125" x 3"	8.627" x 1-1/2"	12.253" x 1"	12.253" x 1"	9.000" x 1"
Through-hole	6" Through	8-1/2" Through	11-7/8" Through	11-7/8" Through	8-3/4" Through
F: Table nut thread	1"-8	1"-8	1"-8	1-1/4"-7	1-1/4"-7
Dim G	59" (1499)	54" (1372)	66" (1676)	72" (1829)	76" (1930)
Dim H	75" (1905)	86" (2184)	104-7/8" (2664)	107-1/2" (2731)	128-1/2" (3264)
Dim I	68" (1727)	74-1/2" (1886)	96-7/8" (2461)	99-1/2" (2527)	109-1/2" (2781)
Dim J	55" (1397)	50" (1270)	58" (1473)	64" (1626)	71" (1803)
Dim K	2" (51)	2" (51)	4" (102)	4" (102)	2-1/2" (64)
Dim L	1-1/16" (27)	1-1/8" (29)	1-5/8" (41)	1-5/8" (41)	2-1/8" (54)
Dim M	2" (51)	2-3/4" (70)	2" (51)	2" (51)	2" (51)
Dim N	4-13/16" (122)	0" (00)	2-1/8" (54)	3-5/8" (92)	0" (0)
Dim O	69-3/4" (1772)	60" (1524)	87" (2210)	99-3/8" (2524)	89-1/2" (2273)
Dim P (Max overall height)	133-1/2" (3391)	133" (3378)	155-1/4" (3943)	168" (4267)	176" (4470)
Approx. Weight HS lb (kg)	9,460 (4291)	12,370 (5611)	23,791 (10791)	24,500 (11113)	33,060 (14996)
Approx. Weight TS lb (kg)	8,085 (3667)	11,200 (5080)	22,707 (10299)	23,250 (10546)	33,131 (15028)
Standard Voltage	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60

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