

**12** **4** **4** **004** - **CP1** - **1** - **D1** - **M02** - **C155** - **L04** - **E00** - **B00**

**Table Series**

**Number of Bearings**

- 2** - 2 bearing per carriage
- 4** - 4 bearings per carriage

**Carriage Length**

- 4** - 4 inches

**Travel Length** (see pages C-28 & C-30)

- 004** - 4 to 120 inches

**Cover Plate**

- CP0** - no cover plate
- CP1** - top cover plate only

**Carriage Inserts** (see pages C-29 & C-31)

- 1** - English mount
- 2** - Metric mount

**Drive Shaft** (see pages C-29 & C-31)

- D1** - Right Hand single shaft
- D2** - Left Hand single shaft
- D3** - Right Hand thru shaft
- D4** - Left Hand thru shaft

**Motor Mount** (see pages C-29, C-31 & C-46)

- M00** - none
- M99** - other
- M02** - NEMA 23 mount (E)
- M03** - NEMA 23 mount (M)
- M04** - NEMA 34 mount (E)
- M05** - NEMA 34 mount (M)

**Coupling Options** (see pages C-40 & C-41)

- C000** - none
- C999** - none
- C130 to C134** - H100
- C155 to C164** - H131
- C190 to C200** - H163
- C407 to C413** - G100
- C435 to C444** - G126
- C470 to C480** - G158

**Limit & Home Switches** (see pages C-37 to C-39)

- |                          |                     |            |            |            |            |
|--------------------------|---------------------|------------|------------|------------|------------|
| <b>L00</b> - no switches |                     | Reed       | Hall       | Prox (NPN) | Prox (PNP) |
| <b>L99</b> - other       | EOT & home switches | <b>L04</b> | <b>L07</b> | <b>L10</b> | <b>L13</b> |
|                          | EOT switches only   | <b>L05</b> | <b>L08</b> | <b>L11</b> | <b>L14</b> |
|                          | home switch only    | <b>L06</b> | <b>L09</b> | <b>L12</b> | <b>L15</b> |

**Encoder Options** (see page C-49)

- E00** - none
- E01** - rotary (500 lines/rev)
- E02** - rotary (1000 lines/rev)
- E03** - rotary (1270 lines/rev)
- E99** - other

*note: When selecting any rotary encoder option, the Drive Shaft D3 or D4 above is required.*

**Power-off Brakes** (see page C-48)

- B00** - none
- B01** - 24 VDC
- B02** - 90 VDC
- B99** - other

*note: When selecting any brake option, the Drive Shaft D3 or D4 above is required.*

- (E) - English Interface
- (M) - Metric Interface

## Specifications

Load Capacities		Two (2) Bearing Carriage		Four (4) Bearing Carriage	
<b>Dynamic Horizontal</b>	2 million inches (50 km) of travel	1,550 lbs	( 703 kg)	3,100 lbs	( 1406 kg)
<b>Dynamic Horizontal</b>	50 million inches (1270 km) of travel	525 lbs	( 238 kg)	1,060 lbs	( 480 kg)
<b>Static Horizontal</b>		2,360 lbs	( 1070 kg)	4,720 lbs	( 2140 kg)
<b>Dynamic Roll Moment</b>	2 million inches (50 km) of travel	140 ft-lbs	( 190 N-m)	280 ft-lbs	( 379 N-m)
<b>Dynamic Roll Moment</b>	50 million inches (1270 km) of travel	47 ft-lbs	( 64 N-m)	95 ft-lbs	( 129 N-m)
<b>Static Roll Moment</b>		210 ft-lbs	( 285 N-m)	425 ft-lbs	( 576 N-m)
<b>Dyn. Pitch &amp; Yaw Moment</b>	2 million inches (50 km) of travel	18 ft-lbs	( 24 N-m)	240 ft-lbs	( 325 N-m)
<b>Dyn. Pitch &amp; Yaw Moment</b>	50 million inches (1270 km) of travel	6 ft-lbs	( 8 N-m)	82 ft-lbs	( 111 N-m)
<b>Static Pitch &amp; Yaw Moment</b>		30 ft-lbs	( 41 N-m)	365 ft-lbs	( 495 N-m)
<b>Each Bearing Dyn. Capacity</b>	2 million inches (50 km) of travel	775 lbs	( 351 kg)	775 lbs	( 351 kg)
<b>Each Bearing Dyn. Capacity</b>	50 million inches (1270 km) of travel	263 lbs	( 119 kg)	263 lbs	( 119 kg)
<b>Each Bearing Static Load Capacity</b>		1,180 lbs	( 535 kg)	1,180 lbs	( 535 kg)
<b>Maximum Belt Tensile Force</b>		250 lbs	( 113 kg)	250 lbs	( 113 kg)
<b>Maximum Carriage Thrust Force</b>		115 lbs	( 52 kg)	115 lbs	( 52 kg)
<b>Maximum Speed</b>		118 in/sec	( 3 m/sec)	118 in/sec	( 3 m/sec)
<b>Maximum Acceleration</b>		386 in/sec <sup>2</sup>	( 9,8 m/sec <sup>2</sup> )	772 in/sec <sup>2</sup>	( 19,6 m/sec <sup>2</sup> )
<b>d<sub>1</sub></b>	Center to center distance (spread) between the two rails	2.375 in	( 60,3 mm)	2.375 in	( 60,3 mm)
<b>d<sub>2</sub></b>	Center to center distance (spacing) of the bearings on a single rail		-	2.088 in	( 53,0 mm)
<b>d<sub>r</sub></b>	Center distance of the bearing to top of carriage plate surface	1.375 in	( 34,9 mm)	1.375 in	( 34,9 mm)

Other	For Two (2) & Four (4) Bearing Carriages
<b>Table Material</b>	Base, Carriage, End Plates, & Cover Plate - 6061 anodized aluminum
<b>Linear Rail Material</b>	Stainless Steel
<b>Belt Properties</b>	Black, 16 mm wide, Polyurethane, Steel reinforced belt
<b>Drive Pulley Weight</b>	0.21 lbs ( 0,10 kg)
<b>Drive Pulley Diameter</b>	1.128 in ( 28,65 mm)
<b>Drive Lead</b>	3.543 in ( 90,00 mm)
<b>Belt Stretch - x Load (lbs or N)</b>	0.00025 in/ft per lbs ( 0,00476 mm/m per N)
<b>Unidirectional Repeatability</b>	+/- 0.001 in (+/- 0,0254 mm)
<b>Bidirectional Repeatability</b>	+/- 0.004 in (+/- 0,1016 mm)
<b>Position Accuracy (Belt) <sup>(1)</sup></b>	< 0.010 in/ft (< 0,254 mm/300mm)
<b>Orthogonality (multi-axis systems)</b>	< 30 arc-seconds
<b>Friction Coefficient</b>	< 0.01
<b>Breakaway Torque</b>	< 60 oz-in (0,424 N-m)
<b>Motor Mount</b>	NEMA 23 & 34 Mounts, Metric Mounts, and Gearheads
<b>Coupling</b>	Two (2) different styles available

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### Footnotes:

(1) Position accuracy varies based on belt stretch. The given rating is based upon a carriage speed of 5 inches/sec (127 mm/sec) and a no load condition.

## Dimensions & Specifications

- Without Cover Plates -

Model Number	Travel Length inches (mm)	Table Dimensions inches (mm)		Mounting Dimensions inches (mm)				Belt Weight ounces (gm)	Table <sup>(1)</sup> Weight lbs (kg)
		A	B	C	D	E	M		
12x4004-CP0	4 (100)	8.0 (203,2)	14.000 (355,6)	0.250 (6,3)	2.500 (63,5)	1	8	1.3 (36,8)	8.4 (3,8)
12x4006-CP0	6 (150)	10.0 (254,0)	16.000 (406,4)	1.250 (31,7)	2.500 (63,5)	1	8	1.5 (42,5)	9.1 (4,1)
12x4008-CP0	8 (200)	12.0 (304,8)	18.000 (457,2)	0.250 (6,3)	2.000 (50,8)	3	12	1.7 (48,2)	9.8 (4,4)
12x4012-CP0	12 (300)	16.0 (406,4)	22.000 (558,8)	0.250 (6,3)	1.500 (38,1)	5	16	2.1 (59,5)	11.1 (5,0)
12x4016-CP0	16 (405)	20.0 (508,0)	26.000 (660,4)	1.250 (31,7)	2.500 (63,5)	5	16	2.5 (70,9)	12.4 (5,6)
12x4020-CP0	20 (505)	24.0 (609,6)	30.000 (762,0)	0.750 (19,0)	2.500 (63,5)	7	20	2.9 (82,2)	13.7 (6,2)
12x4024-CP0	24 (605)	28.0 (711,2)	34.000 (863,6)	0.250 (6,3)	2.500 (63,5)	9	24	3.3 (93,6)	15.1 (6,8)
12x4030-CP0	30 (760)	34.0 (863,6)	40.000 (1016,0)	0.750 (19,0)	2.500 (63,5)	11	28	3.9 (110,6)	17.1 (7,8)
12x4036-CP0	36 (910)	40.0 (1016,0)	46.000 (1168,4)	1.250 (31,7)	2.500 (63,5)	13	32	4.5 (127,6)	19.1 (8,7)
12x4042-CP0	42 (1060)	46.0 (1168,4)	52.000 (1320,8)	1.750 (44,4)	2.500 (63,5)	15	36	5.1 (144,6)	21.1 (9,6)
12x4048-CP0	48 (1215)	52.0 (1320,8)	58.000 (1473,2)	2.250 (57,1)	2.500 (63,5)	17	40	5.7 (161,6)	23.1 (10,4)
12x4054-CP0	54 (1370)	58.0 (1473,2)	64.000 (1625,6)	0.250 (6,3)	2.500 (63,5)	21	48	6.3 (178,6)	25.1 (11,4)
12x4060-CP0	60 (1520)	64.0 (1625,6)	70.000 (1778,0)	0.750 (19,0)	2.500 (63,5)	23	52	6.9 (195,6)	27.1 (12,3)
12x4072-CP0	72 (1820)	76.0 (1930,4)	82.000 (2082,8)	1.750 (44,4)	2.500 (63,5)	27	60	8.1 (229,6)	31.1 (14,1)
12x4084-CP0	84 (2130)	88.0 (2235,2)	94.000 (2387,6)	0.250 (6,3)	2.500 (63,5)	33	72	9.3 (263,7)	35.1 (15,9)
12x4096-CP0	96 (2435)	100.0 (2540,0)	106.000 (2692,4)	1.250 (31,7)	2.500 (63,5)	37	80	10.5 (297,7)	39.1 (17,7)
12x4108-CP0	108 (2740)	112.0 (2844,8)	118.000 (2997,2)	2.250 (57,1)	2.500 (63,5)	41	88	11.7 (331,7)	43.1 (19,6)
12x4120-CP0	120 (3045)	124.0 (3149,6)	130.000 (3302,0)	0.750 (19,0)	2.500 (63,5)	47	100	12.9 (365,7)	47.1 (21,4)

- x = 2; Carriage has 2 bearings; Carriage weight = 1.6 lbs. (0,73 kg)
- x = 4; Carriage has 4 bearings; Carriage weight = 1.8 lbs. (0,82 kg)

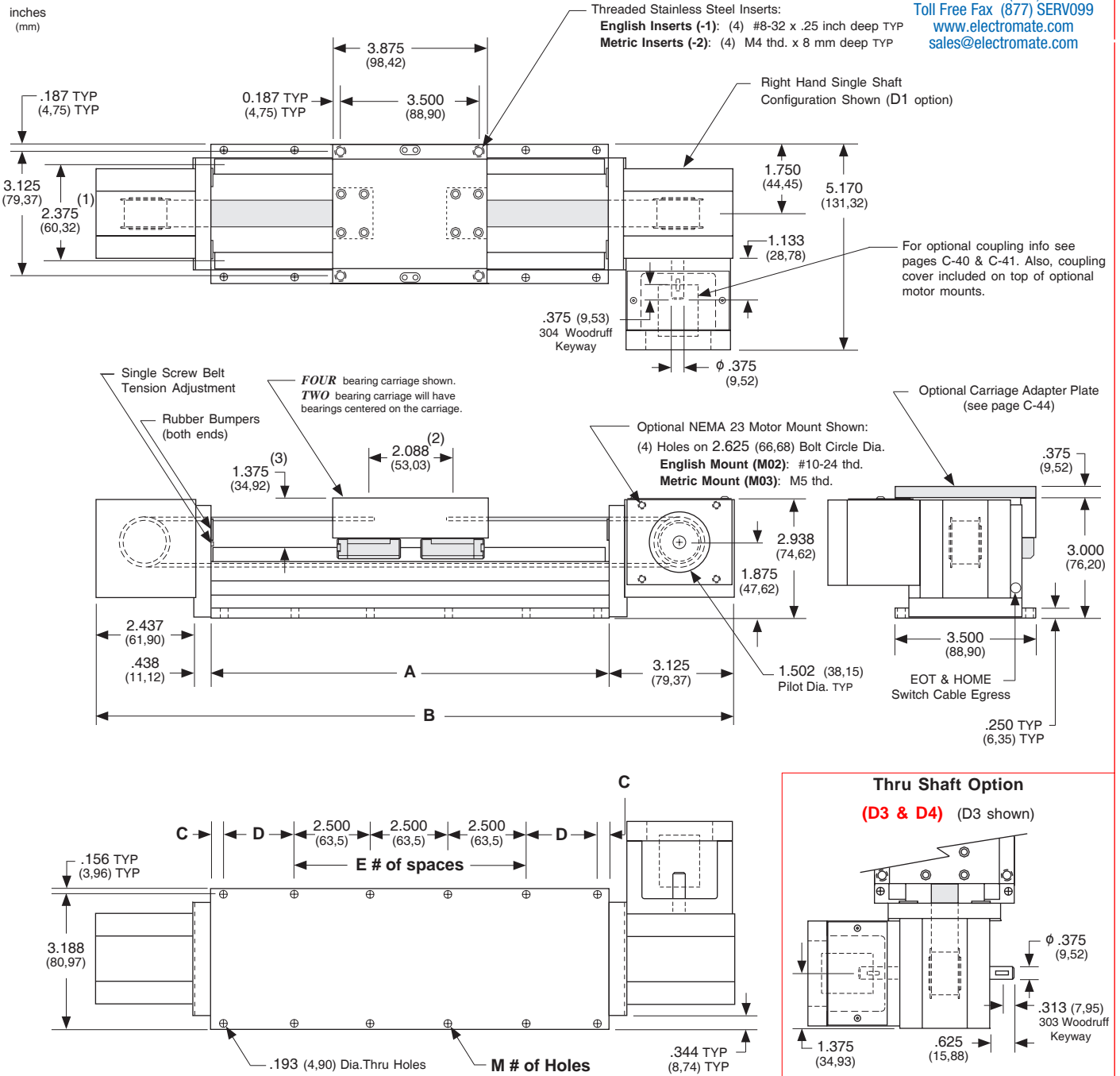
### Footnotes:

(1) Weight shown is with a 2 bearing carriage [1.6 lbs (0,73 kg)], a NEMA 23 motor mount [0.34 lbs (0,16 kg)], and a H100 style [0.08 lbs (0,04 kg)] coupling. When using a 4 bearing carriage add 0.2 lbs (0,09 kg) to each value.

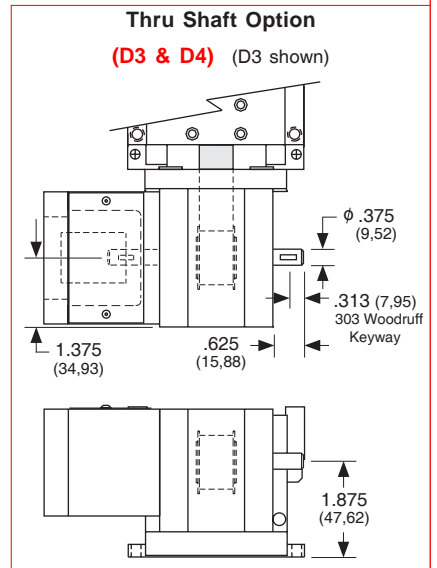
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## Dimensions

### - Without Cover Plates -



- (1) This value is center to center distance (spread) between the two rails ( $d_1$ ).
- (2) This value is center to center distance (spacing) of the bearings on a single rail ( $d_2$ ).
- (3) This value is center distance of the bearing to top of carriage plate surface ( $d_3$ ).



**Note:** Any 100, 110, 120 or 130 series table can be mounted on top of any second 100, 110, 120 series table by the user, in order to create X-Y multiple axis configurations. The 100-CP1, 100-CP2, or 120 series tables require one of the *Carriage Adapter Plate* options. The carriage's threaded stainless steel insert hole pattern exactly matches the base mounting hole pattern on each table, therefore no extra adapter bracket or machining is required. However a precision square tool, or micrometer depth gauge, is required in order to obtain an orthogonality between the two tables of < 30 arc-seconds. The table base, carriage top & carriage sides are all precision machined. *LINTECH's* 100 series, 4 bearing carriage, should be used for the bottom axis in a multiple axes application for better system rigidity, performance, and life.

## Dimensions & Specifications

- With Top Cover Plate Only -

Model Number	Travel Length <sup>(1)</sup> inches (mm)	Table Dimensions inches (mm)		Mounting Dimensions inches (mm)				Belt Weight ounces (gm)	Table Weight <sup>(2)</sup> lbs (kg)
		A	B	C	D	E	M		
12x4004-CP1	4 (100)	8.0 (203,2)	14.000 (355,6)	0.250 (6,3)	2.500 (63,5)	1	8	1.3 (36,8)	8.4 (3,8)
12x4006-CP1	6 (150)	10.0 (254,0)	16.000 (406,4)	1.250 (31,7)	2.500 (63,5)	1	8	1.5 (42,5)	9.1 (4,1)
12x4008-CP1	8 (200)	12.0 (304,8)	18.000 (457,2)	0.250 (6,3)	2.000 (50,8)	3	12	1.7 (48,2)	9.8 (4,4)
12x4012-CP1	12 (300)	16.0 (406,4)	22.000 (558,8)	0.250 (6,3)	1.500 (38,1)	5	16	2.1 (59,5)	11.1 (5,0)
12x4016-CP1	16 (405)	20.0 (508,0)	26.000 (660,4)	1.250 (31,7)	2.500 (63,5)	5	16	2.5 (70,9)	12.4 (5,6)
12x4020-CP1	20 (505)	24.0 (609,6)	30.000 (762,0)	0.750 (19,0)	2.500 (63,5)	7	20	2.9 (82,2)	13.7 (6,2)
12x4024-CP1	24 (605)	28.0 (711,2)	34.000 (863,6)	0.250 (6,3)	2.500 (63,5)	9	24	3.3 (93,6)	15.1 (6,8)
12x4030-CP1	30 (760)	34.0 (863,6)	40.000 (1016,0)	0.750 (19,0)	2.500 (63,5)	11	28	3.9 (110,6)	17.1 (7,8)
12x4036-CP1	36 (910)	40.0 (1016,0)	46.000 (1168,4)	1.250 (31,7)	2.500 (63,5)	13	32	4.5 (127,6)	19.1 (8,7)
12x4042-CP1	42 (1060)	46.0 (1168,4)	52.000 (1320,8)	1.750 (44,4)	2.500 (63,5)	15	36	5.1 (144,6)	21.1 (9,6)
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12x4060-CP1	60 (1520)	64.0 (1625,6)	70.000 (1778,0)	0.750 (19,0)	2.500 (63,5)	23	52	6.9 (195,6)	27.1 (12,3)
12x4072-CP1	72 (1820)	76.0 (1930,4)	82.000 (2082,8)	1.750 (44,4)	2.500 (63,5)	27	60	8.1 (229,6)	31.1 (14,1)

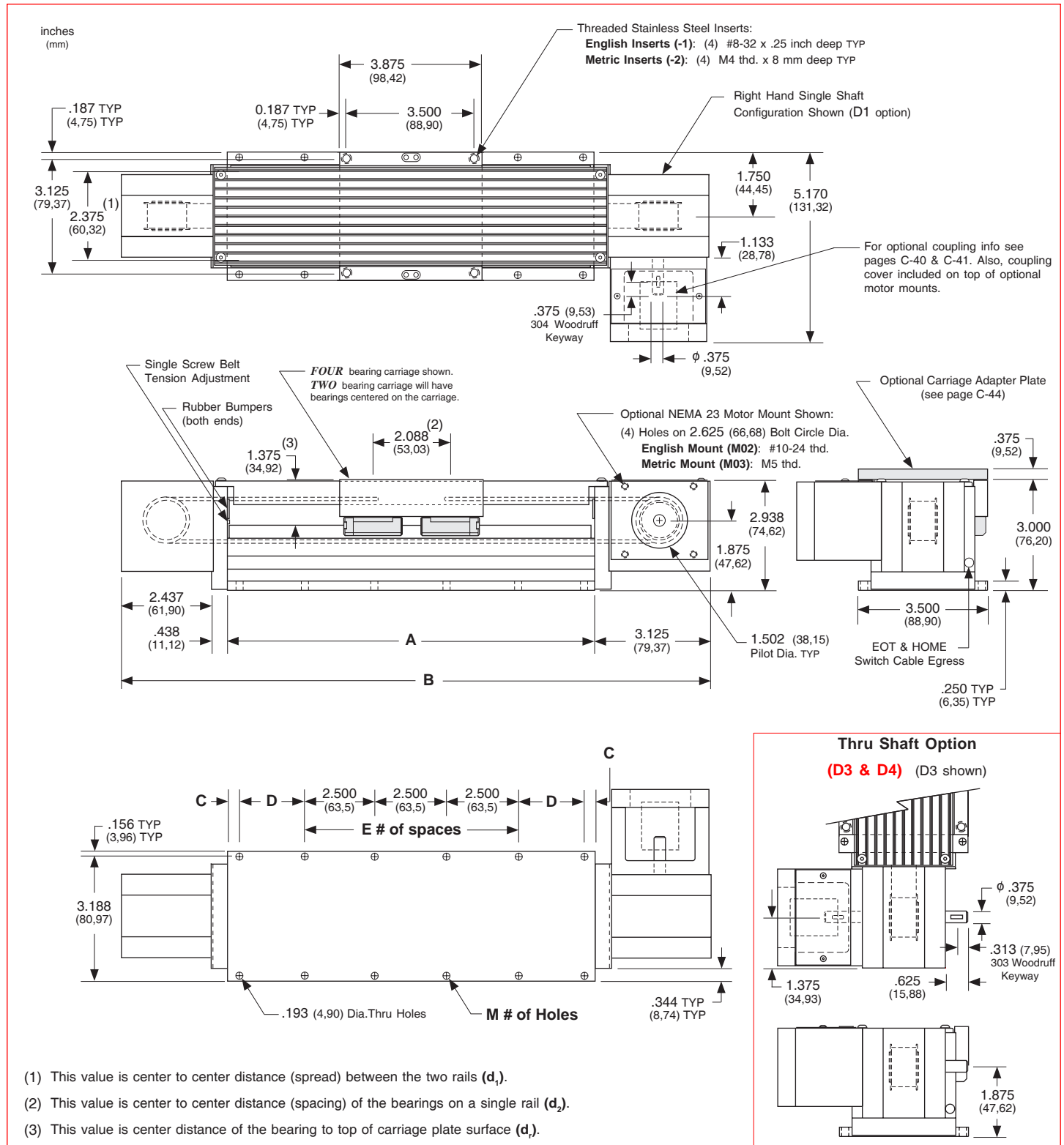
- ┌ x = 2; Carriage has 2 bearings; Carriage weight = 1.6 lbs. (0,73 kg)
- └ x = 4; Carriage has 4 bearings; Carriage weight = 1.8 lbs. (0,82 kg)

### Footnotes:

- (1) For travels greater than 72 inches (1820 mm) a cover plate (-CP1) cannot be used due to the sag of the cover plate.
- (2) Weight shown is with a 2 bearing carriage [1.6 lbs (0,73 kg)], a NEMA 23 motor mount [0.34 lbs (0,16 kg)], and a H100 style [0.08 lbs (0,04 kg)] coupling. When using a 4 bearing carriage add 0.2 lbs (0,09 kg) to each value.

## Dimensions

### - With Top Cover Plate Only -



**Note:** Any 100, 110, 120 or 130 series table can be mounted on top of any second 100, 110, 120 series table by the user, in order to create X-Y multiple axis configurations. The 100-CP1, 100-CP2, or 120 series tables require one of the *Carriage Adapter Plate* options. The carriage's threaded stainless steel insert hole pattern exactly matches the base mounting hole pattern on each table, therefore no extra adapter bracket or machining is required. However a precision square tool, or micrometer depth gauge, is required in order to obtain an orthogonality between the two tables of < 30 arc-seconds. The table base, carriage top & carriage sides are all precision machined. *LINTECH's* 100 series, 4 bearing carriage, should be used for the bottom axis in a multiple axes application for better system rigidity, performance, and life.