Ordering Guide

- Belt Drive -

120 Series

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

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

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

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

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

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

L00 - no switches
L99 - other

	Reed	Hall	Prox (NPN)	Prox (PNP)
EOT & home switches	**L04**	**L07**	**L10**	**L13**
EOT switches only	**L05**	**L08**	**L11**	**L14**
home switch only	**L06**	**L09**	**L12**	**L15**

Encoder Options (see page C-49)

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

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
Dynamic Horizontal	2 million inches (50 km) of travel	1,550 lbs (703 kg)	3,100 lbs (1406 kg)
Dynamic Horizontal	50 million inches (1270 km) of travel	525 lbs (238 kg)	1,060 lbs (480 kg)
Static Horizontal		2,360 lbs (1070 kg)	4,720 lbs (2140 kg)
Dynamic Roll Moment	2 million inches (50 km) of travel	140 ft-lbs (190 N-m)	280 ft-lbs (379 N-m)
Dynamic Roll Moment	50 million inches (1270 km) of travel	47 ft-lbs (64 N-m)	95 ft-lbs (129 N-m)
Static Roll Moment		210 ft-lbs (285 N-m)	425 ft-lbs (576 N-m)
Dyn. Pitch & Yaw Moment	2 million inches (50 km) of travel	18 ft-lbs (24 N-m)	240 ft-lbs (325 N-m)
Dyn. Pitch & Yaw Moment	50 million inches (1270 km) of travel	6 ft-lbs (8 N-m)	82 ft-lbs (111 N-m)
Static Pitch & Yaw Moment		30 ft-lbs (41 N-m)	365 ft-lbs (495 N-m)
Each Bearing Dyn. Capacity	2 million inches (50 km) of travel	775 lbs (351 kg)	775 lbs (351 kg)
Each Bearing Dyn. Capacity	50 million inches (1270 km) of travel	263 lbs (119 kg)	263 lbs (119 kg)
Each Bearing Static Load Capacity		1,180 lbs (535 kg)	1,180 lbs (535 kg)
Maximum Belt Tensile Force		250 lbs (113 kg)	250 lbs (113 kg)
Maximum Carriage Thrust Force		115 lbs (52 kg)	115 lbs (52 kg)
Maximum Speed		118 in/sec (3 m/sec)	118 in/sec (3 m/sec)
Maximum Acceleration		386 in/sec^2 (9,8 m/sec^2)	772 in/sec^2 (19,6 m/sec^2)
d_1	Center to center distance (spread) between the two rails	2.375 in (60,3 mm)	2.375 in (60,3 mm)
d_2	Center to center distance (spacing) of the bearings on a single rail	-	2.088 in (53,0 mm)
d_r	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
Table Material	Base, Carriage, End Plates, & Cover Plate - 6061 anodized aluminum
Linear Rail Material	Stainless Steel
Belt Properties	Black, 16 mm wide, Polyurethane, Steel reinforced belt
Drive Pulley Weight	0.21 lbs (0,10 kg)
Drive Pulley Diameter	1.128 in (28,65 mm)
Drive Lead	3.543 in (90,00 mm)
Belt Stretch - x Load (lbs or N)	0.00025 in/ft per lbs (0,00476 mm/m per N)
Unidirectional Repeatability	+/- 0.001 in (+/- 0,0254 mm)
Bidirectional Repeatability	+/- 0.004 in (+/- 0,1016 mm)
Position Accuracy (Belt) (1)	< 0.010 in/ft (< 0,254 mm/300mm)
Orthogonality (multi-axis systems)	< 30 arc-seconds
Friction Coefficient	< 0.01
Breakaway Torque	< 60 oz-in (0,424 N-m)
Motor Mount	NEMA 23 & 34 Mounts, Metric Mounts, and Gearheads
Coupling	Two (2) different styles available

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 [1] 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)

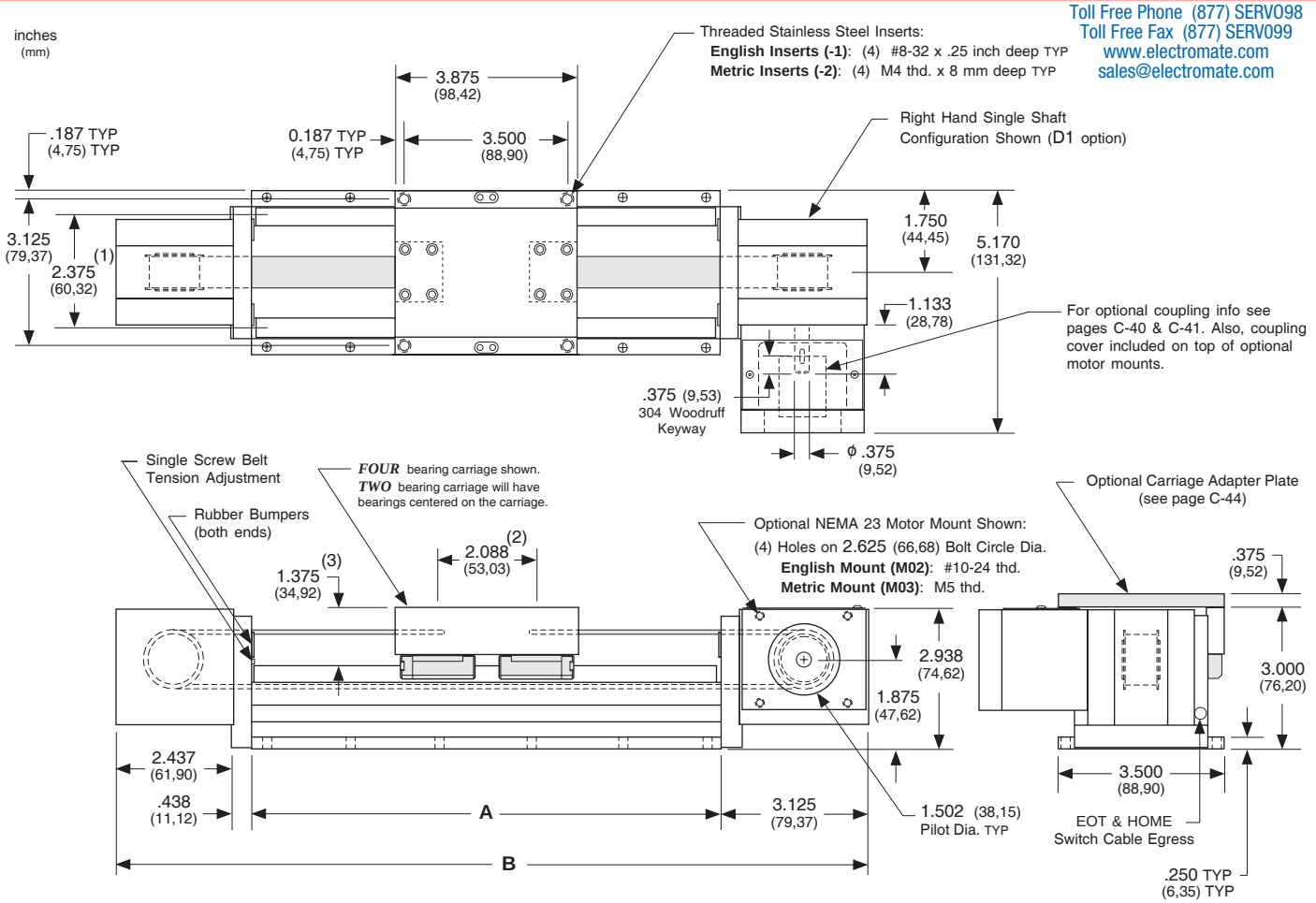
x = 4; Carriage has 4 bearings; Carriage weight = 1.8 lbs. (0,82 kg)

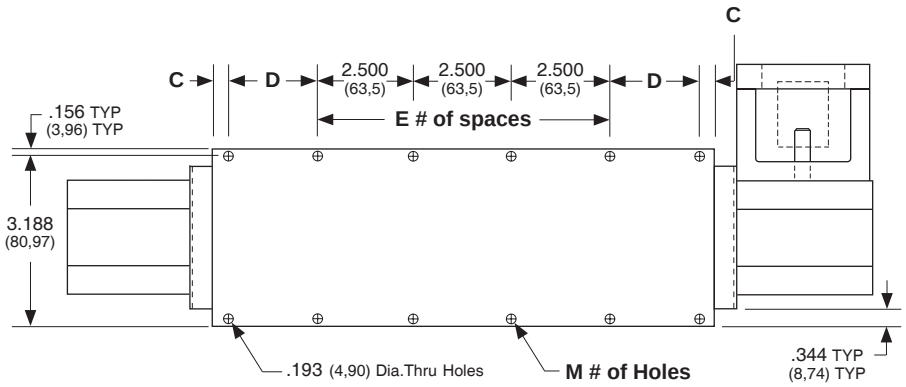
Footnotes:

(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.

Dimensions

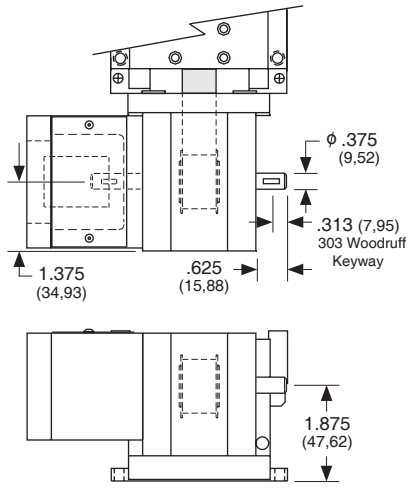
- Without Cover Plates -





Thru Shaft Option

(D3 & D4) (D3 shown)



(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_t)**.

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 mutiple axes application for better system rigidity, performance, and life.

Dimensions & Specifications

- With Top Cover Plate Only -

Model Number	Travel Length (1) inches (mm)	Table Dimensions inches (mm)		Mounting Dimensions inches (mm)				Belt Weight ounces (gm)	Table Weight (2) 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)
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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)
12x4048-CP1	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)
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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)

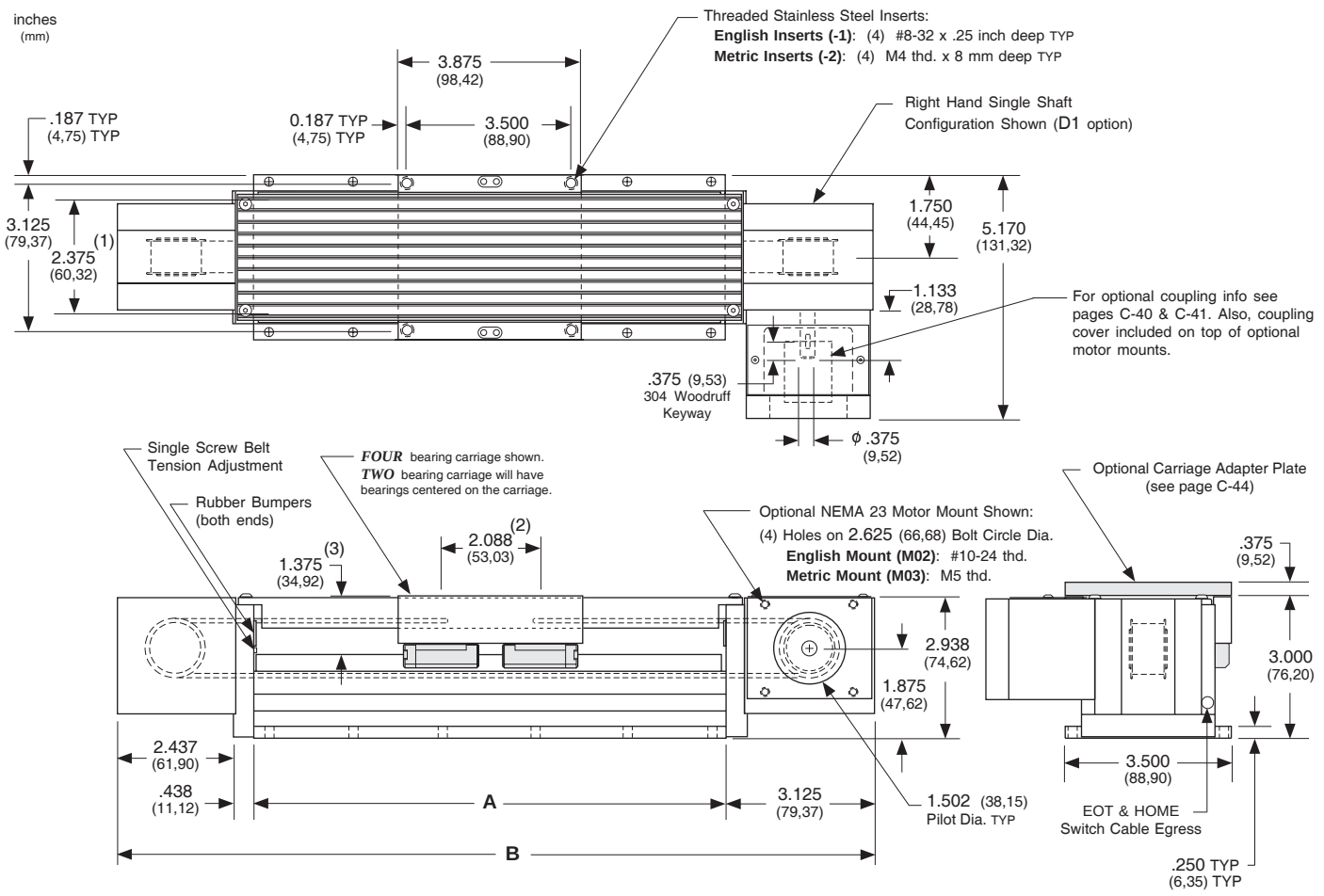
Footnotes:

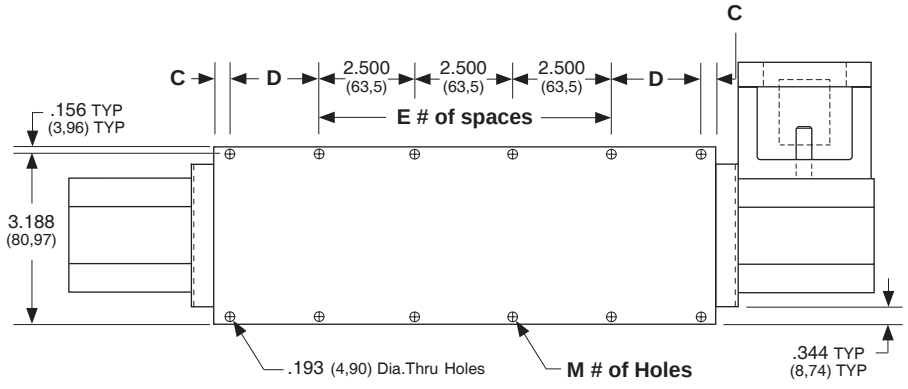
(1) For travels greater than 72 inches (1820 mm) a cover plate **(-CP1)** cannot be used due to the sag of the cover plate.

(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

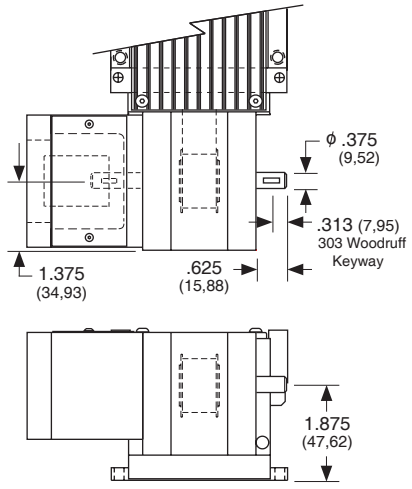
- With Top Cover Plate Only -





Thru Shaft Option

(D3 & D4) (D3 shown)



(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_t)**.

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 mutiple axes application for better system rigidity, performance, and life.