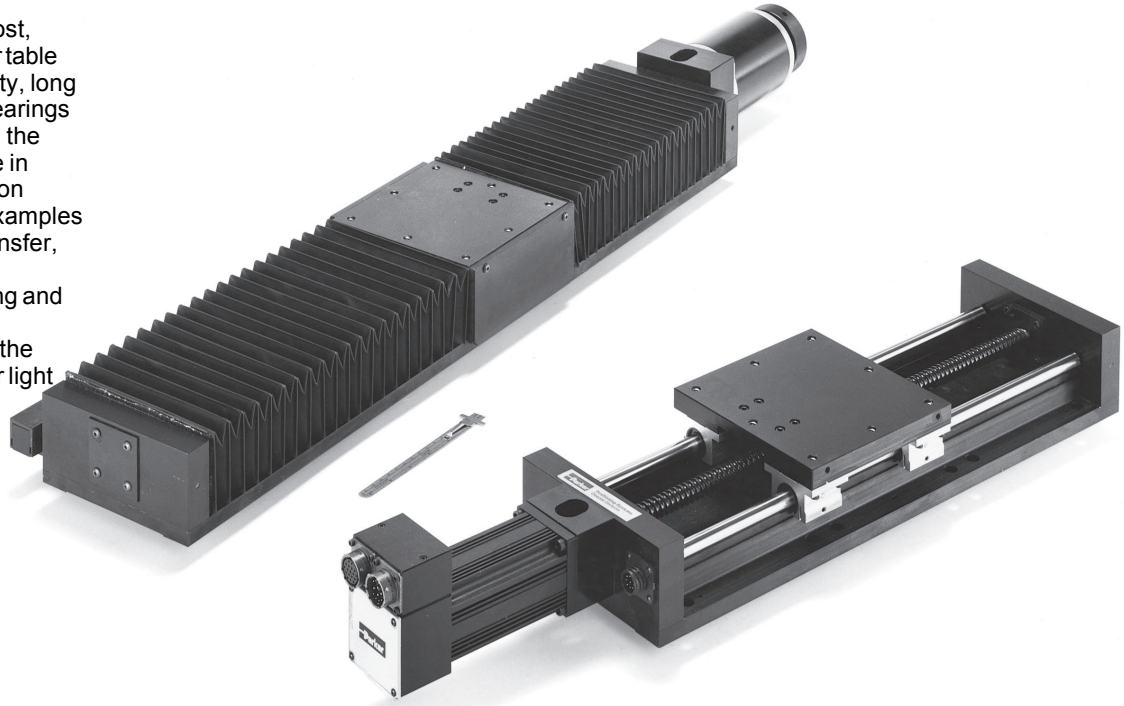


500000ST Series

Versatility

Designed as a low-cost, multi-functional linear table with high load capacity, long life round rail linear bearings and rolled ball screw, the 500000ST is at home in industrial or automation applications. A few examples are welding, parts transfer, gantry units, cutoff machines, part loading and fluid dispensing. Add optional bellows and the positioner is ready for light duty machining.



500000ST Series

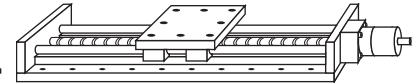
	500004ST	500006ST	500008ST	500010ST	500012ST	500014ST	500016ST	500018ST
Travel – inches (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)
Life* @ Listed Specifications – x 1 million in (km)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
Positional Accuracy** – x 0.001 in (µm)	2.9 (76)	2.9 (76)	3.4 (86)	4.1 (104)	4.8 (121)	5.4 (138)	6.2 (156)	6.7 (170)
Positional Repeatability – x 0.001 in (µm)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)
Straight Line Accuracy** – x 0.001 in (µm)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Flatness Accuracy** – x 0.001 in (µm)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Max Screw Speed – rps	50	50	50	50	50	50	50	50
Max Acceleration – in/sec ² (m/sec ²)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
Duty Cycle – % of motion to dwell cycle	100%	100%	100%	100%	100%	100%	100%	100%
Direct Loading* – lbs (kgf)	Normal	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
	Inverted	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
	Side	168 (76)	168 (76)	168 (76) ¹	68 (76)	168 (76)	168 (76)	168 (76)
Axial Loading – lbs (kgf) Smooth Operation***	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)
Input Inertia**** – 10 ³ oz-in-sec ² (10 ⁻⁶ kg-m-sec ²)	2.40 (1,73)	2.77 (1,99)	3.13 (2,25)	3.49 (2,52)	3.86 (2,77)	4.22 (3,04)	4.31 (3,11)	4.95 (3,56)
Maximum Running Torque – oz-in (N-m)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
Maximum Breakaway Torque – oz-in (N-m)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)
Drive Screw Efficiency – %	75	75	75	75	75	75	75	75
Coefficient of Linear Bearing Friction	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Carriage Weight – lbs (kgf)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)
Longitudinal Span between Bearing Truck Centers (d1) – in (mm)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
Lateral Span between Bearing Rail Centers (d2) – in (mm)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
Bearing Rail Center to Carriage Mounting Surface (da) – in (mm)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)
Table Weight – lbs (kgf)	13.2 (6,0)	14.2 (6,5)	15.3 (6,9)	16.5 (7,5)	17.8 (8,2)	19 (8,6)	20.3 (9,2)	21.5 (9,8)

*See page B59 for Life/Load Performance ratings. Compression, tension and side loads values for 500000ST are the same as for 500000ET and 500000PD Series.

** Over total table travel

*** For applications with vibration, consult factory for axial load capacity.

**** Based on 5 pitch (0.2 inch lead) ballscrew.



Quality Design in Imperial or Metric Mounting

The top and base are constructed of aluminum alloy and are protected with a black anodize surface finish. The top and bottom mounting surfaces are precision ground to assure flatness and all mounting holes are fitted with locking steel threaded inserts to prevent mounting bolts from working loose. The linear ways are centerless ground rails and recirculating ball bearing bushings. The drive train is a precision rolled 0.2" lead (5 pitch) ball screw. For higher speeds, a 0.5" lead (2 pitch) ball screw is available. Note: travel is reduced by 2 inches when equipped with 2 pitch ball screw. Please see chart on page B57. Both the 0.2" lead and 0.5" lead ball screws incorporate a preloaded dual nut design to

virtually eliminate backlash. All models are available in both Imperial and metric mounting.

Options:

Motor Couplings

A wide range of coupling styles and bores are available to match your motor requirements. Bellows-style couplings offer the lowest radial wind-up, while the aluminum and stainless steel helix couplers offer good wind up characteristics and high durability at a lower cost.

Motor Mounts

The standard motor mount is designed for an industry standard NEMA 23 motor flange with shaft lengths between 0.65 to 0.85 inches. An optional NEMA 34 frame motor mount is available, accepting motors with an industry standard NEMA 34

flange and shafts with lengths from 1.0 to 1.25 inches.

Limit and Home Switches

Limit switches provide a signal when the table is approaching the end of travel and is used to command the motor to stop. The Home sensor provides a fixed reference point to which the table can always return. Refer to page B78 for Limit and Home switch details.

Either mechanical reed switch or optical sensor type limit and home switch assemblies are available. The mechanical reed switch option can be supplied either inboard (mounted inside the nominal table width) or outboard (mounted on the side of the table). The inboard version does not increase table width; however, it is more difficult to adjust. While the outboard

style adds approximately 1.5" to the width, they are easily adjusted. The optical sensor limit and home option is mounted outboard and provides excellent repeatability.

Linear Encoders

This option mounts to the side of the table and is used to give direct positional feedback of the carriage. Imperial resolution of 0.0001 inch and metric resolutions of 0.001 mm are available. Refer to page B80 for linear encoder details.

Way Covers

This option protects the linear bearings and ball screws from dirt, chips and other contaminants. These bellows enclose the top and sides of the table and are suitable for light machining applications.

500000ST

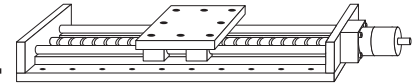
500020ST	500022ST	500024ST	500030ST	500036ST	500042ST	500048ST	500054ST
20 (500)	22 (550)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	54 (1350)
100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
7.0 (186)	8.0 (201)	8.5 (216)	10.2 (261)	9.0 (304)	12.0 (346)	15.2 (387)	16.9 (427)
±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)
45	39	34	23	16	18	14	12
772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
100%	100%	100%	100%	100%	100%	100%	100%
200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)
160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)
5.31 (3,82)	5.67 (4,09)	6.04 (4,34)	7.13 (5,15)	8.22 (5,91)	18.69 (13,4)	20.89 (15,0)	23.07 (16,6)
24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)
75	75	75	75	75	75	75	75
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)	2.26 (1,02)
4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)	1.06 (26,9)
22.7 (10,3)	23.9 (10,8)	25.0 (11,3)	28.5 (12,9)	32.1 (14,6)	37.6 (17,1)	41.6 (18,9)	45.6 (20,7)

Order Example

How to Order

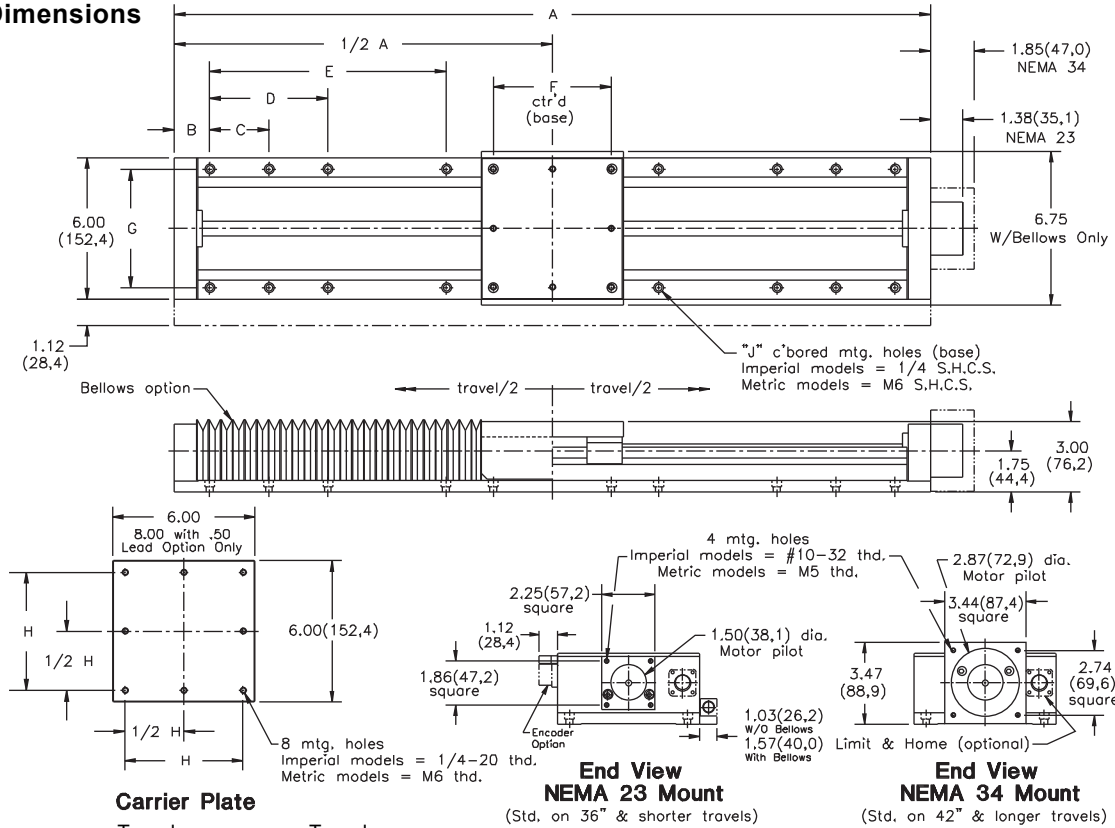
☒ Model Series	5	06	020	ST	-	M	S	-	D2	L3	C2	M2	E3	W1
☒ Table Width														
6 in 150 mm	06													
☒ Table Travel*														
4 in 100 mm 004	22 in 550 mm 022	* Maximum travels are based on D2 drive screw selection. Travels may be less when selecting other drive screws. Refer to drawing charts for actual travel.												
6 in 150 mm 006	24 in 600 mm 024													
8 in 200 mm 008	30 in 750 mm 030													
10 in 250 mm 010	36 in 900 mm 036													
12 in 300 mm 012	42 in 1000 mm 042													
14 in 350 mm 014	48 in 1200 mm 048													
16 in 400 mm 016	54 in 1375 mm 054													
18 in 450 mm 018														
20 in 500mm 020														
☒ Table Style	ST													
☒ Mounting														
Imperial	E													
Metric	M													
☒ Grade														
Standard Grade	S													
☒ Drive Type														
Free Travel	D1													
0.20 in Lead (5 Pitch) Rolled Ballscrew	D2													
0.50 in Lead (2 Pitch) Rolled Ballscrew	D3													
☒ Limit/Home														
No Limit/Home Switches	L1													
Magnetic Limit/Home Switches—Inboard (Not available on 4" travel tables)	L2													
Magnetic Limit/Home Switches—Outboard	L3													
Optical Limit/Home Sensors—Outboard	L4													
☒ Motor Coupling														
No Coupling	C1													
0.25 in Bore, Helix, Aluminum	C2													
0.25 in Bore, Helix, Stainless Steel	C3													
0.25 in Bore, Bellows	C4													
0.375 in Bore, Helix, Aluminum	C5													
0.375 in Bore, Helix, Stainless Steel	C6													
0.375 in Bore, Bellows	C7													
☒ Motor Mount														
No Motor Mount	M1													
23 Frame Size	M2													
34 Frame Size	M3													
☒ Encoder														
No Encoder	E1													
Linear Encoder, Imperial, 0.0001 in Resolution	E2													
Linear Encoder, Metric 1.0 µm Resolution	E3													
☒ Way Covers														
No Bellows (Open)	W1													
Bellows*	W2													
[Overall travel will be shorter with this selection; refer to dimensional drawings for actual table travel.]														

Rail Tables



506000ST Dimensions

in (mm)



	Model	Travel		Travel		A	B	C	D	E	F	G	H	J	Quantity
		D1 & D2	w/Bellows	D1 & D2	D3										
Imperial	506004ST-E	4 in	2.1 in	2 in	—	12 in	1.5 in	—	—	—	5 in	5 in	5 in	8	
	506006ST-E	6 in	4 in	4 in	2	14 in	1.5 in	—	—	—	5 in	5 in	5 in	8	
	506008ST-E	8 in	5.2 in	6 in	3.2	16 in	1.5 in	—	—	—	5 in	5 in	5 in	8	
	506010ST-E	10 in	7.2 in	8 in	5.2	18 in	1.5 in	—	—	—	5 in	5 in	5 in	8	
	506012ST-E	12 in	8 in	10 in	6 in	20 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506014ST-E	14 in	9.8 in	12 in	7.8 in	22 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506016ST-E	16 in	12 in	14 in	10 in	24 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506018ST-E	18 in	13 in	16 in	11 in	26 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506020ST-E	20 in	14.5 in	18 in	12.5 in	28 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506022ST-E	22 in	13.1 in	20 in	11.1 in	30 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12	
	506024ST-E	24 in	18 in	22 in	16 in	32 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16	
	506030ST-E	30 in	22.3 in	28 in	20.3 in	38 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16	
	506036ST-E	36 in	27 in	34 in	25 in	44 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16	
	506042ST-E	42 in	31.6 in	40 in	29.6 in	50 in	1.5 in	5 in	15 in	—	5 in	5 in	5 in	16	
Metric	506048ST-E	48 in	36.3 in	46 in	34.3 in	56 in	1.5 in	5 in	15 in	—	5 in	5 in	5 in	16	
	506054ST-E	54 in	41 in	52 in	39 in	62 in	1.5 in	5 in	15 in	25 in	5 in	5 in	5 in	20	
	506004ST-M	100 mm	53,3 mm	50 mm	—	304,8 mm	39,9 mm	—	—	—	125 mm	125 mm	125 mm	8	
	506006ST-M	150 mm	101,6 mm	100 mm	50,8 mm	355,6 mm	40,3 mm	—	—	—	125 mm	125 mm	125 mm	8	
	506008ST-M	200 mm	132,1 mm	150 mm	81,3 mm	406,4 mm	40,7 mm	—	—	—	125 mm	125 mm	125 mm	8	
	506010ST-M	250 mm	182,9 mm	200 mm	132,1 mm	457,2 mm	41,1 mm	—	—	—	125 mm	125 mm	125 mm	8	
	506012ST-M	300 mm	210,8 mm	250 mm	152,4 mm	508,0 mm	41,5 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506014ST-M	350 mm	249,0 mm	300 mm	198,1 mm	558,8 mm	66,9 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506016ST-M	400 mm	304,8 mm	350 mm	254,0 mm	609,6 mm	42,3 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506018ST-M	450 mm	330,2 mm	400 mm	279,4 mm	660,4 mm	67,7 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506020ST-M	500 mm	368,3 mm	450 mm	317,5 mm	711,2 mm	43,1 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506022ST-M	550 mm	408,9 mm	500 mm	281,9 mm	762,0 mm	68,5 mm	125 mm	—	—	125 mm	125 mm	125 mm	12	
	506024ST-M	600 mm	457,2 mm	550 mm	406,4 mm	812,8 mm	43,9 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16	
	506030ST-M	750 mm	566,4 mm	700 mm	515,6 mm	965,2 mm	120,1 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16	
	506036ST-M	900 mm	685,8 mm	850 mm	635,0 mm	1117,6 mm	46,3 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16	
	506042ST-M	1050 mm	802,6 mm	1000 mm	751,8 mm	1270,0 mm	122,5 mm	125 mm	375 mm	—	125 mm	125 mm	125 mm	16	
	506048ST-M	1200 mm	922,0 mm	1150 mm	871,2 mm	1422,4 mm	48,7 mm	125 mm	375 mm	—	125 mm	125 mm	125 mm	16	
	506054ST-M	1350 mm	1041,4 mm	1300 mm	990,6 mm	1574,8 mm	74,9 mm	125 mm	375 mm	625 mm	125 mm	125 mm	125 mm	20	

506000ST

500000ET Series

Added Benefit

The 500000ET series retains all the benefits of the 500000ST series, such as high load, long life, round rail linear bearings and precision rolled preloaded double nut ball screws at a reduced cost. Also standard is a hard shell extruded cover over the bearings and screw assembly. The 500000ET series can be applied in applications such as welding, parts transfer, gantry units, part loading and fluid dispensing.



500000ET

	506004ET	506006ET	506008ET	506010ET	506012ET	506014ET	506016ET	506018ET
Travel – inches (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)
Life* @ Listed Specifications – x 1 million in (km)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
Positional Accuracy** – x 0.001 in (µm)	3.0 (76)	3.0 (76)	3.4 (86)	4.1 (104)	4.8 (121)	5.4 (138)	6.1 (156)	6.7 (170)
Positional Repeatability – x 0.001 in (µm)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)
Straight Line Accuracy** – x 0.001 in (µm)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Flatness Accuracy** – x 0.001 in (µm)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Max Screw Speed – rps	50	50	50	50	50	50	50	50
Max Acceleration – in/sec ² (m/sec ²)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
Duty Cycle – % of motion to dwell cycle	100%	100%	100%	100%	100%	100%	100%	100%
Direct Loading* – lbs (kgf)								
Normal	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
Inverted	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
Side	168 (76)	168 (76)	168 (76)	68 (76)	168 (76)	168 (76)	168 (76)	168 (76)
Axial Loading – lbs (kgf) Smooth Operation***	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)
Input Inertia**** – 10 ³ oz-in-sec ² (10 ⁶ kg-m-sec ²)	2.40 (1,73)	2.77 (1,99)	3.13 (2,25)	3.49 (2,52)	3.86 (2,77)	4.22 (3,04)	4.31 (3,11)	4.95 (3,56)
Maximum Running Torque – oz-in (N-m)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
Maximum Breakaway Torque – oz-in (N-m)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)
Drive Screw Efficiency – %	75	75	75	75	75	75	75	75
Coefficient of Linear Bearing Friction	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Carriage Weight – lbs (kgf)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)
Longitudinal Span between Bearing Truck Centers (d1) – in (mm)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
Lateral Span between Bearing Rail Centers (d2) – in (mm)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
Bearing Rail Center to Carriage Mounting Surface (da) – in (mm)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)
Table Weight – lbs (kgf)	14.7 (6,7)	16.0 (7,3)	17.3 (7,9)	18.8 (8,5)	20.3 (9,2)	21.8 (9,9)	23.3 (10,6)	24.8 (11,3)

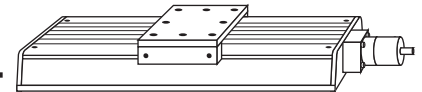
* See page B59 for Life/Load Performance ratings. Compression, tension and side loads values for 500000ET are same as for 500000ST and 500000PD Series.

** Over total table travel

*** For applications with vibration, consult factory for axial loads.

**** Based on 5 pitch (0.2 inch lead) ballscrew

Enclosed Rail Tables



Quality Design

The table body is constructed of high quality aluminum alloy with a black anodize surface finish. The hard shell cover has a clear anodized finish. The top and bottom mounting surfaces are precision ground to assure flatness and all mounting holes are fitted with locking steel threaded inserts to prevent mounting bolts from working loose. The linear ways are made from centerless ground rails and recirculating ball bearing bushings. The drive train is a precision rolled 0.2" lead (5 pitch) ball screw or for higher speeds, a 0.5" lead (2 pitch) ball screw is available. Note: travel is reduced by 2 inches when equipped with 2 pitch ball screw. See dimensions chart on page B59. Both the 0.2" lead and 0.5" lead ball screws incorporate a preload dual nut design to virtually eliminate backlash.

Options:

Motor Couplings

A wide range of coupling styles and bores are available to match your motor requirements. Bellows-style couplings offer the lowest radial wind up, while the aluminum and stainless steel helix couplers offer good wind up characteristics and high durability at a lower cost.

Motor Mounts

The standard motor mount is designed for an industry standard NEMA 23 motor flange with shaft lengths between 0.65 to 0.85 inches long. An optional NEMA 34 frame motor mount is available, accepting motors with an industry standard NEMA 34 flange and shafts with lengths from 1.0 to 1.25 inches.

Limit and Home Switches

Limit switches provide a signal when the table is approaching the end of travel and is used to command the motor to stop. The Home sensor provides a fixed reference point to which the table can always return. Refer to [page B78](#) for Limit and Home switch details.

Either mechanical reed switch or optical sensor type limit and home switch assemblies are available. The mechanical reed switch option can be supplied either inboard (mounted inside the nominal table width) or outboard (mounted on the side of the table). The inboard version does not

increase table width; however, it is more difficult to adjust. While the outboard style adds approximately 1.5" to the width, it is easy to adjust. The optical sensor limit and home option is mounted outboard and provides excellent repeatability.

Linear Encoders

This option mounts to the side of the table and is used to give direct positional feedback of the carriage. Imperial resolution of 0.0001 inch and metric resolutions of 0.001 mm are available. Refer to [page B80](#) for linear encoder details.

500000ET

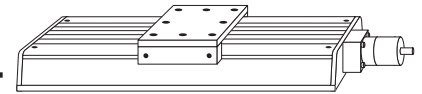
506020ET	506022ET	506024ET	506030ET	506036ET	506042ET	506048ET	506054ET
20 (500)	22 (550)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	54 (1350)
100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
7.3 (186)	7.9 (201)	8.5 (216)	10.2 (261)	11.9 (304)	13.5 (346)	15.2 (387)	16.9 (427)
±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)	±0.5 (±14)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)
45	39	34	23	16	18	14	12
772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
100%	100%	100%	100%	100%	100%	100%	100%
200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)
160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)	160 (73)
5.31 (3,82)	5.67 (4,09)	6.04 (4,34)	7.13 (5,15)	8.22 (5,91)	18.69 (13,4)	20.89 (15,0)	23.07 (16,6)
24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)	26 (0,19)
75	75	75	75	75	75	75	75
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)
4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)
26.2 (11,9)	27.7 (12,6)	29.0 (13,2)	33.3 (15,1)	37.6 (17,1)	43.9 (19,9)	48.6 (22,0)	54.4 (24,2)

Order Example

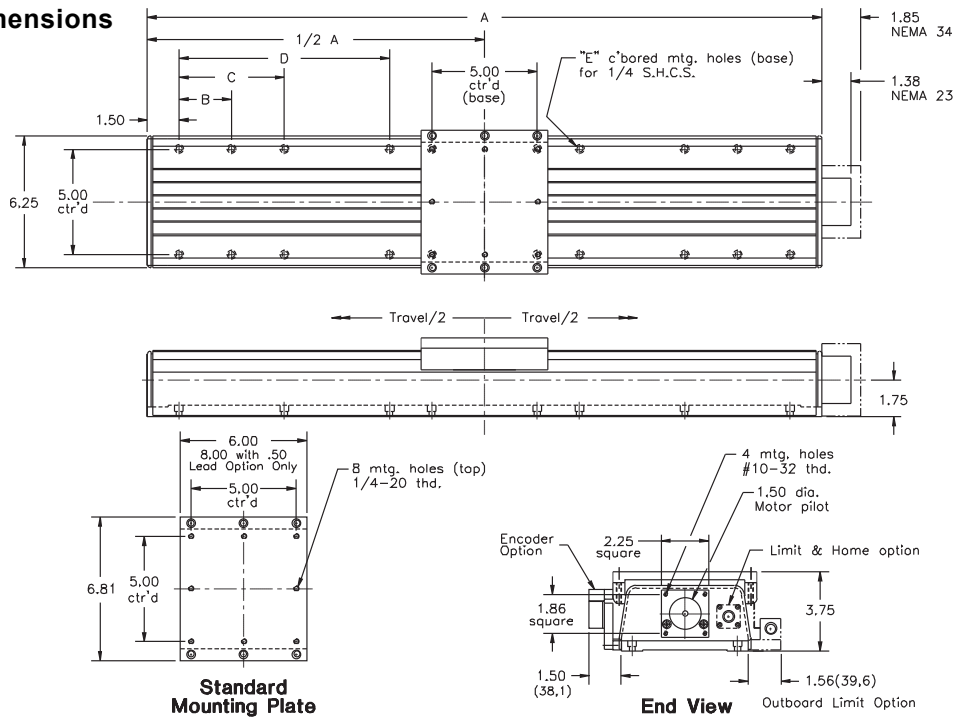
How to Order

☒ Model Series	5																		
☒ Table Width																			
6 in 150 mm	06																		
☒ Table Travel*																			
4 in 100 mm 004																			
6 in 150 mm 006																			
8 in 200 mm 008																			
10 in 250 mm 010																			
12 in 300 mm 012																			
14 in 350 mm 014																			
16 in 400 mm 016																			
18 in 450 mm 018																			
20 in 500mm 020																			
22 in 550 mm 022																			
24 in 600 mm 024																			
30 in 750 mm 030																			
36 in 900 mm 036																			
42 in 1000 mm 042																			
48 in 1200 mm 048																			
54 in 1375 mm 054																			
* Maximum travels are based on D2 drive screw selection. Travels may be less when selecting other drive screws. Refer to drawing charts for actual table travel.																			
☒ Table Style	ET																		
☒ Mounting																			
Imperial	E																		
☒ Grade																			
Standard Grade	S																		
☒ Drive Type																			
Free Travel	D1																		
0.20 in Lead (5 Pitch) Rolled Ballscrew	D2																		
0.50 in Lead (2 Pitch) Rolled Ballscrew	D3																		
☒ Limit/Home																			
No Limit/Home Switches	L1																		
Magnetic Limit/Home Switches—Inboard (Not available on 4" travel tables)	L2																		
Magnetic Limit/Home Switches—Outboard	L3																		
Optical Limit/Home Sensors—Outboard	L4																		
☒ Motor Coupling																			
No Coupling	C1																		
0.25 in Bore, Helix, Aluminum	C2																		
0.25 in Bore, Helix, Stainless Steel	C3																		
0.25 in Bore, Bellows	C4																		
0.375 in Bore, Helix, Aluminum	C5																		
0.375 in Bore, Helix, Stainless Steel	C6																		
0.375 in Bore, Bellows	C7																		
☒ Motor Mount																			
No Motor Mount	M1																		
23 Frame Size	M2																		
34 Frame Size	M3																		
☒ Encoder																			
No Encoder	E1																		
Linear Encoder, Imperial, 0.0001 in Resolution	E2																		
Linear Encoder, Metric 1.0 µm Resolution	E3																		
☒ Way Covers																			
Hard Shell Cover	W1																		

Enclosed Rail Tables



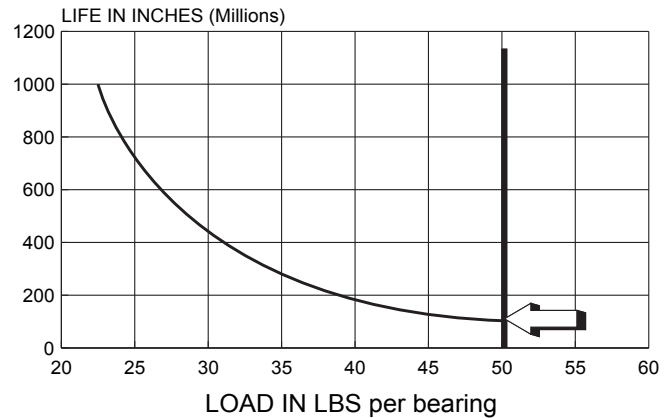
500000ET Dimensions



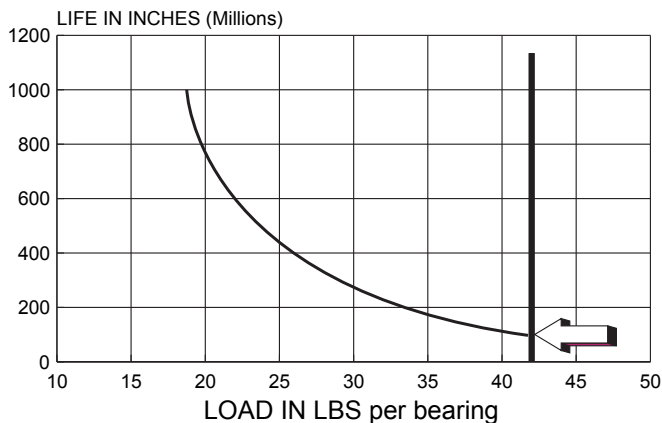
Imperial Model	Travel D1 and D2	Travel D3	A	B	C	D	E	Quantity
506004ET	4 in	2 in	12 in	—	—	—	8	8
506006ET	6 in	4 in	14 in	—	—	—	8	8
506008ET	8 in	6 in	16 in	—	—	—	8	8
506010ET	10 in	8 in	18 in	—	—	—	8	8
506012ET	12 in	10 in	20 in	5 in	—	—	12	12
506014ET	14 in	12 in	22 in	5 in	—	—	12	12
506016ET	16 in	14 in	24 in	5 in	—	—	12	12
506018ET	18 in	16 in	26 in	5 in	—	—	12	12
506020ET	20 in	18 in	28 in	5 in	—	—	12	12
506022ET	22 in	20 in	30 in	5 in	—	—	12	12
506024ET	24 in	22 in	32 in	5 in	10 in	—	16	16
506030ET	30 in	28 in	38 in	5 in	10 in	—	16	16
506036ET	36 in	34 in	44 in	5 in	10 in	—	16	16
506042ET	42 in	40 in	50 in	5 in	15 in	—	16	16
506048ET	48 in	46 in	56 in	5 in	15 in	—	16	16
506054ET	54 in	52 in	62 in	5 in	15 in	25 in	20	20

Life/Load Performance*

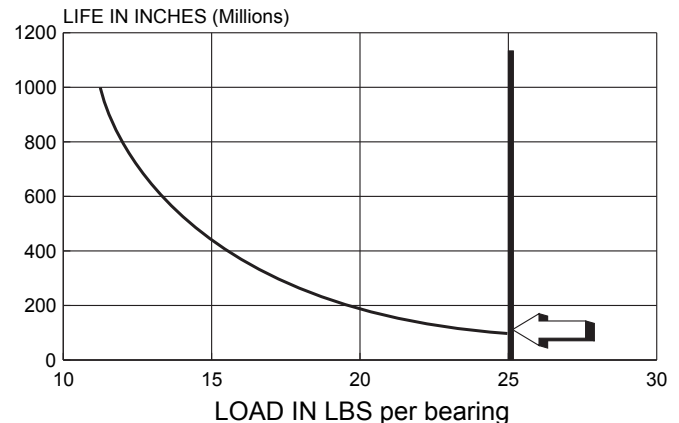
Life with Compression Load



Life with Side Load



Life with Tension Load

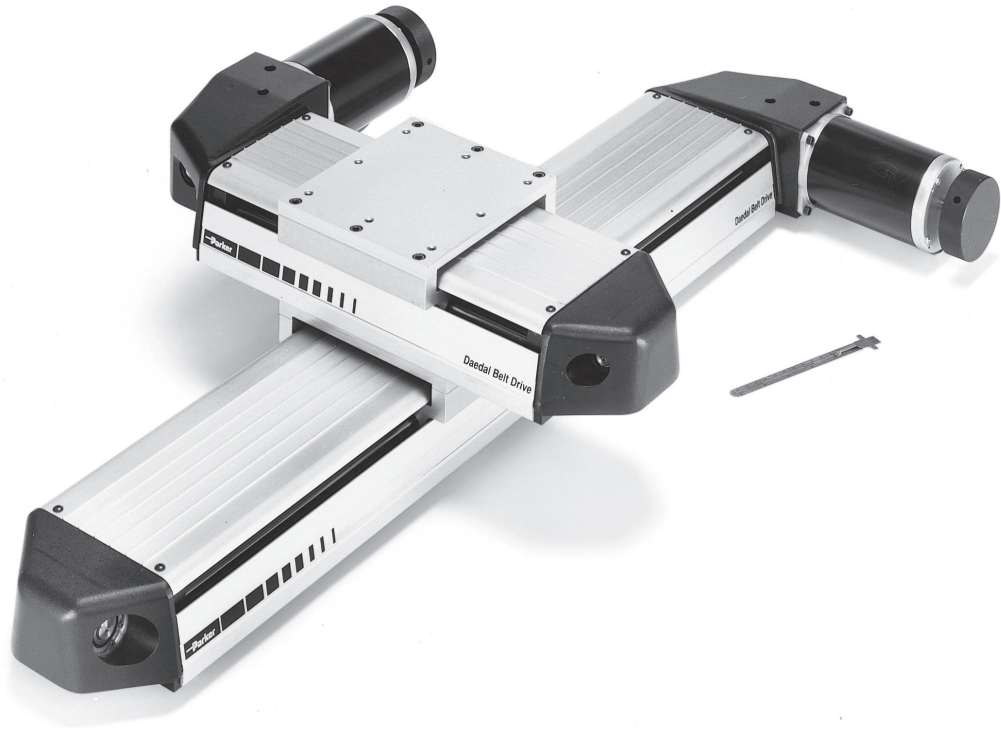


*Life/Load Performance values are same for 500000ST and 500000PD Series.

500000PD Series

High Speed, Repeatable Motion

The belt-driven 500000PD table offers high speed motion up to 120 in/sec with repeatability to ± 0.004 inches. Riding on long life precision round rail linear bearings, it is ideal for applications such as part transfer, pick and place, high speed scanning, glue dispensing and linear transfer stations.



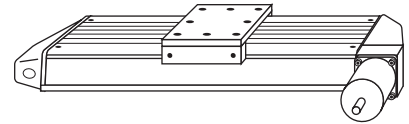
500000PD

	506004PD	506006PD	506008PD	506010PD	506012PD	506014PD	506016PD	506018PD
Travel – inches (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)
Life* @ Listed Specifications – x 1 million in (km)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
Positional Repeatability** – x 0.001 in (μ m)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)	± 4 (± 100)
Straight Line Accuracy** – x 0.001 in (μ m)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Flatness Accuracy** – x 0.001 in (μ m)	0.8 (20)	1.2 (30)	1.5 (38)	1.5 (38)	1.5 (38)	1.9 (48)	2.3 (58)	2.7 (69)
Max Speed – in/sec (m/sec)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)
Max Acceleration – in/sec ² (m/sec ²)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
Duty Cycle – % of motion to dwell cycle	100%	100%	100%	100%	100%	100%	100%	100%
Direct Loading – lbs (kgf)	Normal	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
	Inverted	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
	Side	168 (76)	168 (76)	168 (76)	68 (76)	168 (76)	168 (76)	168 (76)
Axial Loading – lbs (kgf)	Tensile Limit	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
	Nominal	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)
Input Inertia – 10^{-3} oz-in-sec ² (10^{-6} kg-m-sec ²)	54.19 (39,0)	54.32 (39,14)	54.58 (39,24)	54.71 (39,34)	54.98 (39,54)	55.11 (39,65)	55.37 (39,85)	55.50 (39,95)
Maximum Running Torque – oz-in (N-m)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
Maximum Breakaway Torque – oz-in (N-m)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)
Belt Drive Efficiency – %	90	90	90	90	90	90	90	90
Coefficient of Linear Bearing Friction	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Carriage Weight – lbs (kgf)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)
Longitudinal Span between Bearing Truck Centers (d1) – in (mm)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
Lateral Span between Bearing Rail Centers (d2) – in (mm)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
Bearing Rail Center to Carriage Mounting Surface (da) – in (mm)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)
Table Weight – lbs (kgf)	14.7 (9,0)	16 (9,1)	17.3 (9,5)	18.8 (9,5)	20.3 (10,0)	21.8 (10,5)	23.3 (11,0)	24.8 (11,5)

* See page B59 for Life/Load Performance ratings. Compression, tension and side loads values for 500000PD are same as for 500000ST and 500000ET Series.

** Over total table travel

Belt-Driven Rail Tables



Quality Design

The table body is constructed of high quality aluminum alloy with a black anodize surface finish. The hard shell cover has a clear anodized finish. The top and bottom mounting surfaces are precision ground to assure flatness and all mounting holes are fitted with locking steel threaded inserts to prevent mounting bolts from working loose. Linear ways are made from a centerless ground rails and recirculating ball bearing bushings. The drive train is a 1.25" wide polyurethane toothed belt driven by a 90 mm lead pulley. The belt is reinforced with steel cable members to increase strength and minimize belt stretch. The 500000PD series is available in both Imperial and metric mountings.

Options:

Motor Couplings

Couplings are available for both 0.375" motor shafts (NEMA 34) and 0.625" motor shafts (NEMA 42). These couplings are very robust and compensate for motor to input shaft misalignment.

Motor Mounts

The 500000PD tables come standard with a NEMA 34 motor mount and is available with a NEMA 42 frame mount.

Limit and Home Switches

Limit switches provide a signal when the table is approaching the end of travel and are used to command the motor to stop. The Home sensor provides a fixed reference point to which the table can always return. Refer to [page B78](#) for Limit and Home switch details.

Either mechanical reed switch or optical sensor type limit and home switch assemblies are available. The mechanical reed switch option can be supplied either inboard (mounted inside the nominal table width) or outboard (mounted on the side of the table). The inboard version does not increase table width; however, they are more difficult to adjust. While the outboard style adds approximately 1.5" to the width, they are easily adjusted. The optical sensor limit and home option is mounted outboard and provides excellent repeatability.

500000PD

506020PD	506022PD	506024PD	506030PD	506036PD	506042PD	506048PD	506054PD	506060PD
20 (500)	22 (550)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	54 (1350)	60 (1500)
100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)	100 (2540)
±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)	±4 (±100)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)	7.5 (191)
3.0 (76)	3.0 (76)	3.0 (76)	4.2 (107)	4.5 (114)	5.7 (145)	6.0 (152)	7.2 (183)	7.5 (191)
120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)	120 (3)
772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)	772 (20)
100%	100%	100%	100%	100%	100%	100%	100%	100%
200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)	100 (45)
168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)	168 (76)
200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)	200 (90)
50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)	50 (22)
55.77 (40,16)	55.90 (40,26)	56.16 (40,46)	56.69 (40,77)	57.35 (41,28)	58.14 (41,89)	58.67 (42,19)	59.06 (42,50)	59.59 (42,91)
24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)	24 (0,17)
26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)	26 (0,18)
90	90	90	90	90	90	90	90	90
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)	2.56 (1,2)
4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)	4.4 (111,8)
3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)	3.9 (99,1)
2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)	2.08 (52,8)
26.2 (12,0)	27.7 (12,5)	29 (13,0)	33.3 (13,5)	37.6 (15,0)	43.9 (16,5)	48.6 (22,0)	53.4 (24,2)	58.2 (26,4)

500000PD Series

How to Order

☒ **Model Series**

☒ **Table Width**

6 in 150 mm

☒ **Table Travel**

4 in 100 mm **004** 22 in 550 mm **022**

6 in 150 mm **006** 24 in 600 mm **024**

8 in 200 mm **008** 30 in 750 mm **030**

10 in 250 mm **010** 36 in 900 mm **036**

12 in 300 mm **012** 42 in 1000 mm **042**

14 in 350 mm **014** 48 in 1200 mm **048**

16 in 400 mm **016** 54 in 1375 mm **054**

18 in 450 mm **018** 60 in 1525 mm **060**

20 in 500mm **020**

☒ **Table Style**

Pully-Driven Enclosed Table **PD**

☒ **Mounting**

Imperial **E**

Metric **M**

☒ **Grade**

Standard Grade **S**

☒ **Drive Type**

Free Travel **D1**

90 mm Lead Belt Drive **D4**

☒ **Limit/Home**

No Limit/Home Switches **L1**

Magnetic Limit/Home Switches—Inboard

(Not available on 4" travel tables) **L2**

Magnetic Limit/Home Switches—Outboard **L3**

Optical Limit/Home Switches—Outboard **L4**

☒ **Motor Coupling**

No Coupling **C1**

0.375 in Bore, Oldham **C2**

0.625 in Bore, Oldham

(short shaft 106-178 and 106-250 motors) **C3**

0.625 in Bore, Oldham

(long shaft 106-205 motor) **C4**

☒ **Motor Mount**

34 Frame Size **M1**

42 Frame Size **M2**

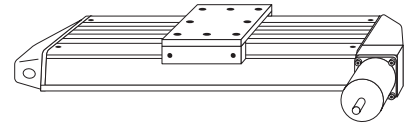
☒ **Way Covers**

Hard Shell Cover **W1**

Order Example

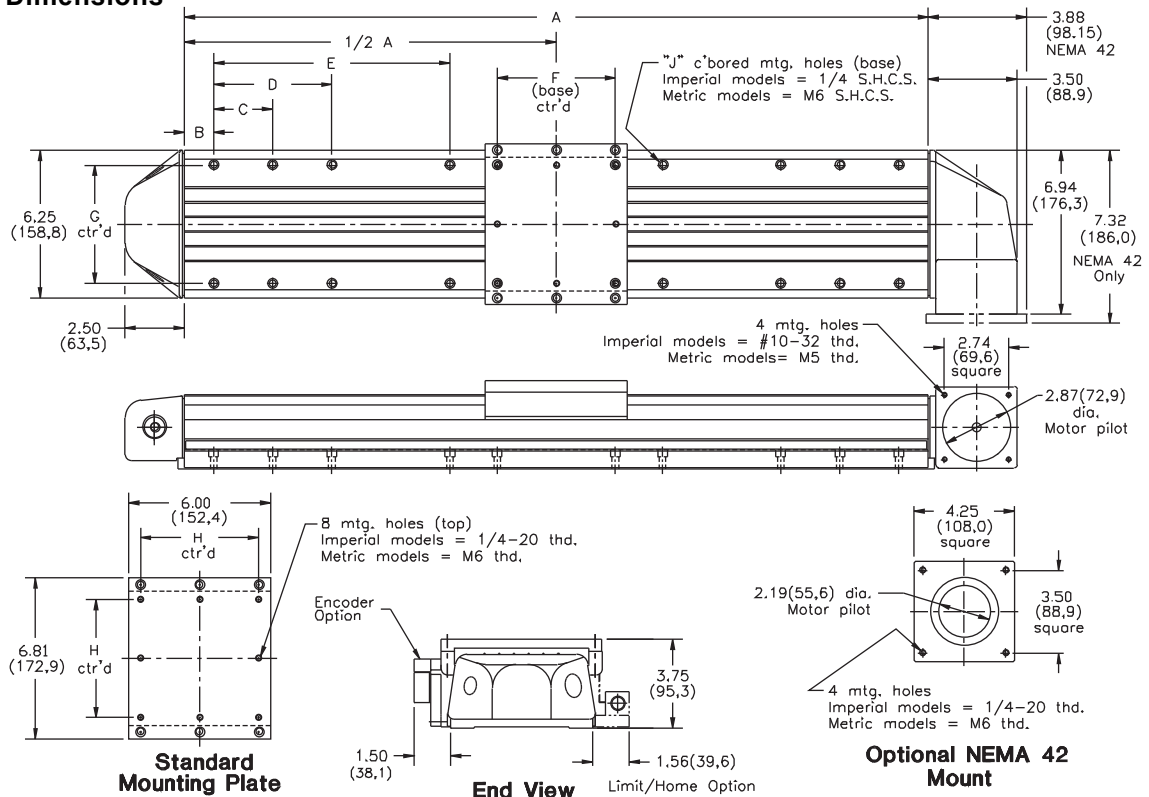
5 06 036 PD - M S - D4 L3 C2 M2 W1

Belt-Driven Rail Tables



506000PD Dimensions

in (mm)



	Model	Travel	A	B	C	D	E	F	G	H	Quantity
Imperial	506004PD-E	4 in	12 in	1.5 in	—	—	—	5 in	5 in	5 in	8
	506006PD-E	6 in	14 in	1.5 in	—	—	—	5 in	5 in	5 in	8
	506008PD-E	8 in	16 in	1.5 in	—	—	—	5 in	5 in	5 in	8
	506010PD-E	10 in	18 in	1.5 in	—	—	—	5 in	5 in	5 in	8
	506012PD-E	12 in	20 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506014PD-E	14 in	22 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506016PD-E	16 in	24 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506018PD-E	18 in	26 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506020PD-E	20 in	28 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506022PD-E	22 in	30 in	1.5 in	5 in	—	—	5 in	5 in	5 in	12
	506024PD-E	24 in	32 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16
	506030PD-E	30 in	38 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16
	506036PD-E	36 in	44 in	1.5 in	5 in	10 in	—	5 in	5 in	5 in	16
	506042PD-E	42 in	50 in	1.5 in	5 in	15 in	—	5 in	5 in	5 in	16
	506048PD-E	48 in	56 in	1.5 in	5 in	15 in	—	5 in	5 in	5 in	16
	506054PD-E	54 in	62 in	1.5 in	5 in	15 in	25 in	5 in	5 in	5 in	20
	506060PD-E	60 in	68 in	1.5 in	5 in	15 in	25 in	5 in	5 in	5 in	20
Metric	506004PD-M	100 mm	304,8 mm	39,9 mm	—	—	—	125 mm	125 mm	125 mm	8
	506006PD-M	150 mm	355,6 mm	40,3 mm	—	—	—	125 mm	125 mm	125 mm	8
	506008PD-M	200 mm	406,4 mm	40,7 mm	—	—	—	125 mm	125 mm	125 mm	8
	506010PD-M	250 mm	457,2 mm	41,1 mm	—	—	—	125 mm	125 mm	125 mm	8
	506012PD-M	300 mm	508,0 mm	41,5 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506014PD-M	350 mm	558,8 mm	66,9 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506016PD-M	400 mm	609,6 mm	42,3 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506018PD-M	450 mm	660,4 mm	67,7 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506020PD-M	500 mm	711,2 mm	43,1 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506022PD-M	550 mm	762,0 mm	68,5 mm	125 mm	—	—	125 mm	125 mm	125 mm	12
	506024PD-M	600 mm	812,8 mm	43,9 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16
	506030PD-M	750 mm	965,2 mm	120,1 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16
	506036PD-M	900 mm	1117,6 mm	46,3 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16
	506042PD-M	1050 mm	1270,0 mm	—	125 mm	375 mm	—	125 mm	125 mm	125 mm	16
	506048PD-M	1200 mm	1422,4 mm	48,7 mm	125 mm	375 mm	—	125 mm	125 mm	125 mm	16
	506054PD-M	1350 mm	1574,8 mm	—	125 mm	375 mm	625 mm	125 mm	125 mm	125 mm	20
	506060PD-M	1500 mm	1727,0 mm	101,0 mm	125 mm	375 mm	625 mm	125 mm	125 mm	125 mm	20

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