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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.



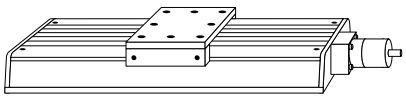
500000ET

		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)		1.0 (20)	1.5 (30)	2.0 (40)	2.5 (50)	3.0 (60)	3.5 (70)	4.0 (80)	4.5 (90)
Positional Repeatability – x 0.001 in (µm)		±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)
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)1	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*

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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.

506020ET	506022ET	506024ET	506030ET	506036ET	506042ET	506048ET	506054ET	506060ET
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)
5.0 (100)	5.5 (110)	6.0 (120)	7.5 (150)	9.0 (180)	10.5 (210)	12 (240)	13.5 (270)	15 (300)
±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)	±0.2 (±5)
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)
45	39	34	23	16	18	14	12	10
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)
160 (73)	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)	25.27 (18,2)
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 (0,19)	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	75
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 (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)	58.2 (26,4)

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500000ET Series

How to Order

Model Series 5

Table Width

6 in 150 mm 06

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		

* 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

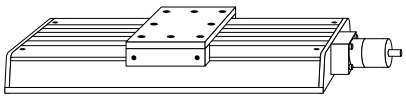
Order Example

5	06	022	ET	–	E	S	–	D2	L3	C2	M2	E3	W1

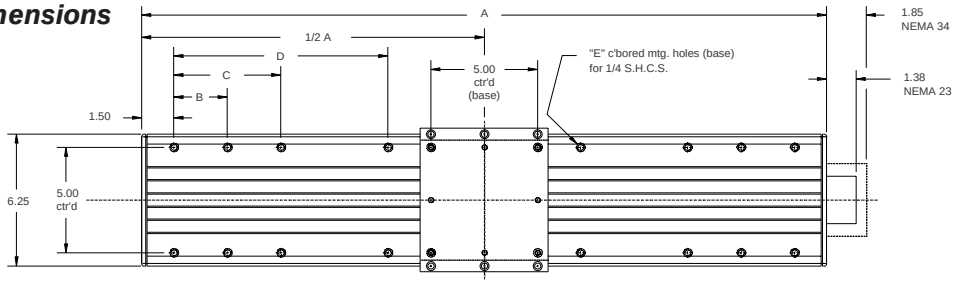
FAX ME

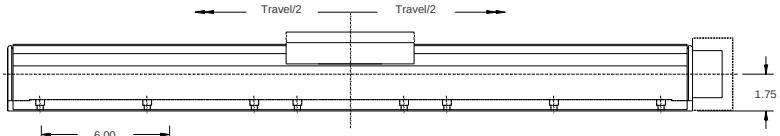
Parker Hannifin Corporation
Daedal Division
Harrison City, Pennsylvania

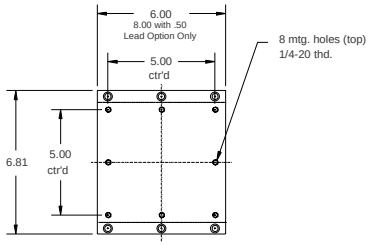
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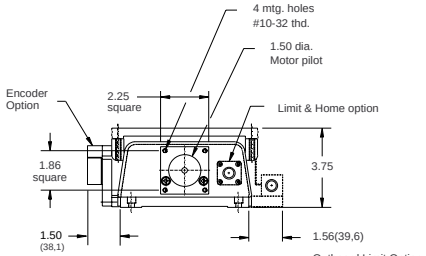
500000ET Dimensions







Standard Mounting Plate

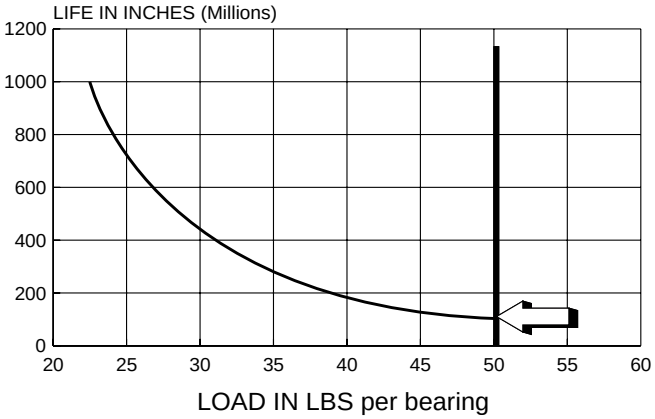


End View

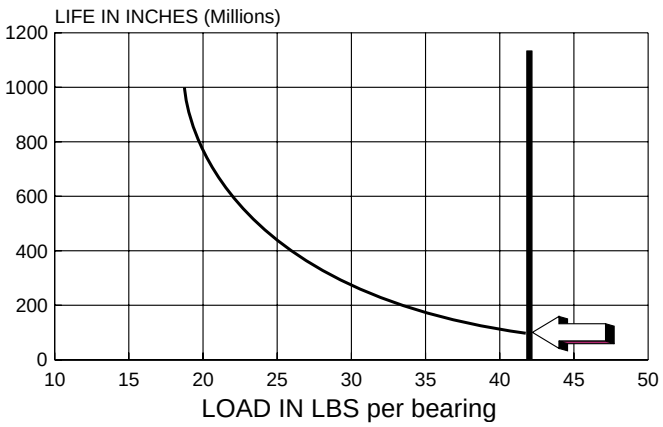
Imperial Model	Travel D1 and D2	Travel D3	A	B	C	D	Quantity E
506004ET	4 in	2 in	12 in	—	—	—	8
506006ET	6 in	4 in	14 in	—	—	—	8
506008ET	8 in	6 in	16 in	—	—	—	8
506010ET	10 in	8 in	18 in	—	—	—	8
506012ET	12 in	10 in	20 in	5 in	—	—	12
506014ET	14 in	12 in	22 in	5 in	—	—	12
506016ET	16 in	14 in	24 in	5 in	—	—	12
506018ET	18 in	16 in	26 in	5 in	—	—	12
506020ET	20 in	18 in	28 in	5 in	—	—	12
506022ET	22 in	20 in	30 in	5 in	—	—	12
506024ET	24 in	22 in	32 in	5 in	10 in	—	16
506030ET	30 in	28 in	38 in	5 in	10 in	—	16
506036ET	36 in	34 in	44 in	5 in	10 in	—	16
506042ET	42 in	40 in	50 in	5 in	15 in	—	16
506048ET	48 in	46 in	56 in	5 in	15 in	—	16
506054ET	54 in	52 in	62 in	5 in	15 in	25 in	20
506060ET	60 in	58 in	68 in	5 in	15 in	25 in	20

*Life/Load Performance**

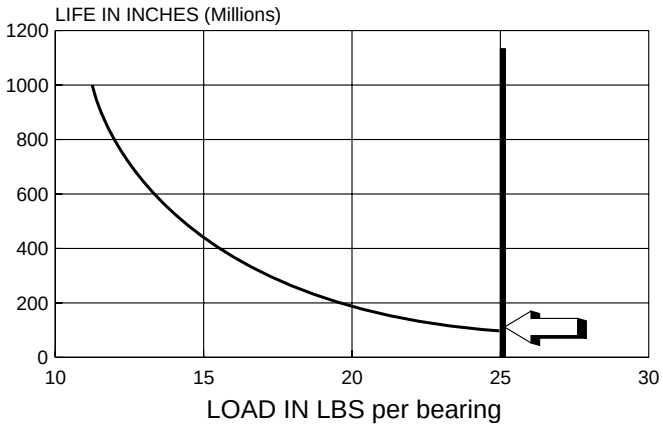
Life with Compression Load



Life with Side Load



Life with Tension Load



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

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