

# 500000PD Series

## High Speed, Repeatable Motion

The belt-driven 500000PD table offers high speed motion up to 120 in/sec with repeatability to  $\pm 0.004$  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.



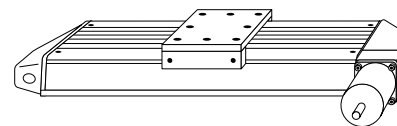
### 500000PD

	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 ( $\mu\text{m}$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )	$\pm 4$ ( $\pm 100$ )
Straight Line Accuracy** – x 0.001 in ( $\mu\text{m}$ )	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 ( $\mu\text{m}$ )	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 <sup>2</sup> (m/sec <sup>2</sup> )	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)								
Tensile Limit	200 (90)	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)	50 (22)
Input Inertia – $10^{-3}$ oz-in-sec <sup>2</sup> ( $10^{-6}$ kg-m-sec <sup>2</sup> )	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.

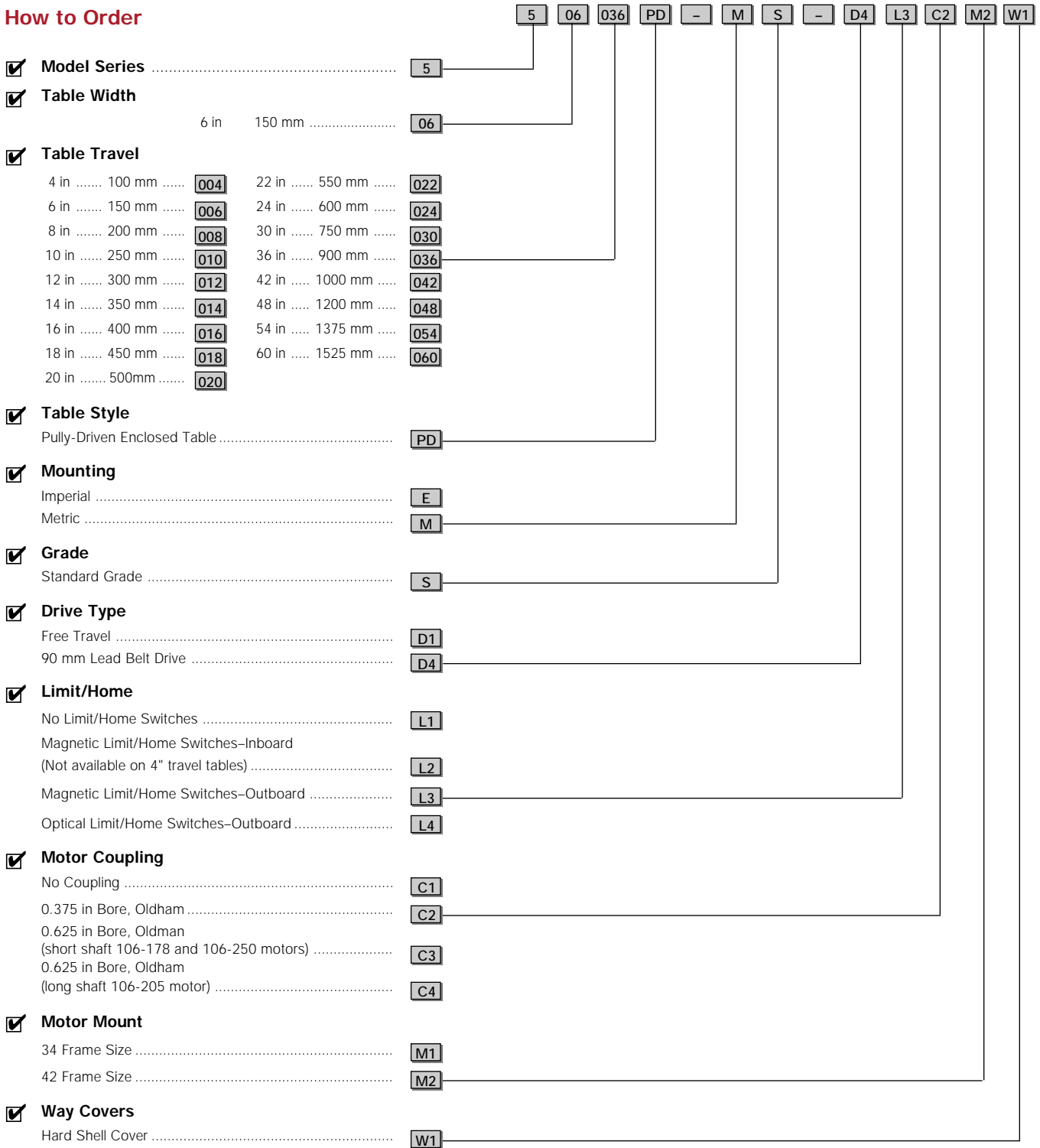
500000PD

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)

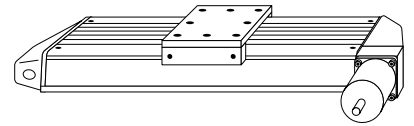
# 500000PD Series

## Order Example

### How to Order

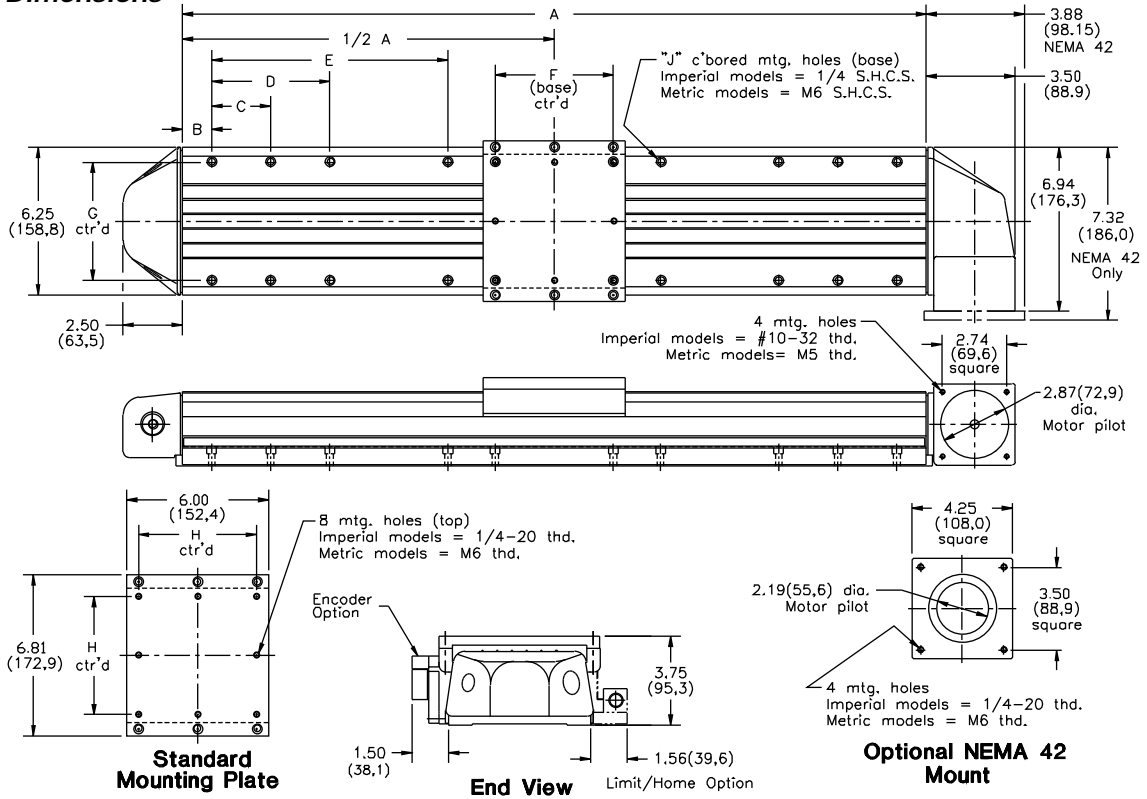


# Belt-Driven Rail Tables



## 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	41,9 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	42,7 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	43,5 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	44,3 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16
		506036PD-M	900 mm	1117,6 mm	44,7 mm	125 mm	250 mm	—	125 mm	125 mm	125 mm	16
		506042PD-M	1050 mm	1270,0 mm	45,1 mm	125 mm	375 mm	—	125 mm	125 mm	125 mm	16
		506048PD-M	1200 mm	1422,4 mm	45,5 mm	125 mm	375 mm	—	125 mm	125 mm	125 mm	16
		506054PD-M	1350 mm	1574,8 mm	45,9 mm	125 mm	375 mm	625 mm	125 mm	125 mm	125 mm	20
	506060PD-M	1500 mm	1727,0 mm	46,3 mm	125 mm	375 mm	625 mm	125 mm	125 mm	125 mm	20	

500000PD