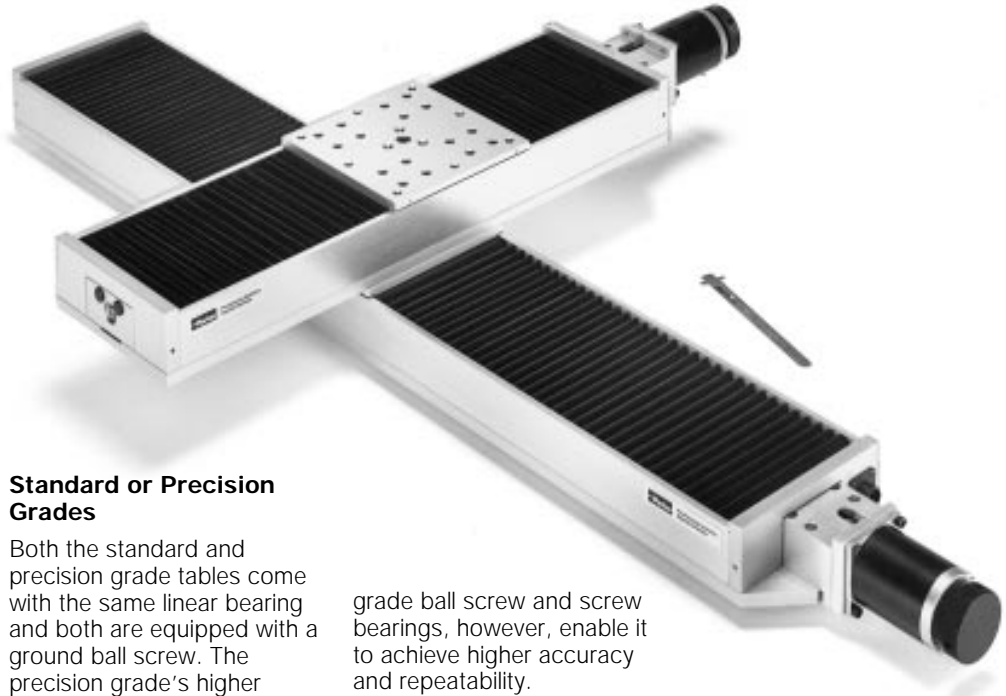


406000LN Series

High Throughput and High Accuracy in One Package

High speed, aggressive acceleration profiles, and exceptional accuracy and smoothness are the design parameters for the 406000LN, making it the table of choice for high throughput, high accuracy applications, such as PCB stuffing, semiconductor processing and part insertion. In addition, the 406000LN series has specially designed linear square rail guide bearings which provide smoothness similar to that of non-recirculating ways. This attribute, along with its low profile, makes it ideal for use in surface inspection and vision inspection applications.



Standard or Precision Grades

Both the standard and precision grade tables come with the same linear bearing and both are equipped with a ground ball screw. The precision grade's higher

grade ball screw and screw bearings, however, enable it to achieve higher accuracy and repeatability.

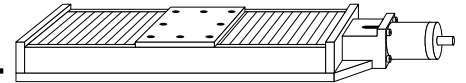
Specifications

		406004LN		406006LN		406008LN	
		4	(100)	6	(150)	8	(200)
Travel – inches (mm)		100	(2540)	100	(2540)	100	(2540)
Life @ Listed Specifications – x 1 million in (km)		100	(2540)	100	(2540)	100	(2540)
Positional Accuracy – x 0.001 in (µm)	Standard Grade	0.6	(15)	0.9	(23)	1.0	(25)
	Precision Grade	0.32	(8)	0.48	(12)	0.6	(15)
Positional Repeatability – x 0.001 in (µm)	Standard Grade	±0.2	(±5)	±0.2	(±5)	±0.2	(±5)
	Precision Grade	±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)
Straight Line Accuracy – x 0.001 in (µm)	Over Total Table Travel	0.32	(8)	0.48	(12)	0.6	(15)
Flatness Accuracy – 0.001 in (µm)	Over Total Table Travel	0.32	(8)	0.48	(12)	0.6	(15)
Max Screw Speed – rps		60		60		60	
Max Acceleration – in/sec ² (m/sec ²)		772	(20)	772	(20)	772	(20)
Duty Cycle – % of motion to dwell cycle		100%		100%		100%	
Direct Loading* – lbs (kgf)	Normal	600	(273)	600	(273)	600	(273)
	Inverted	360	(164)	360	(164)	360	(164)
	Side	320	(145)	320	(145)	320	(145)
Load per Bearing – lbs (kgf)	Normal	150	(68)	150	(68)	150	(68)
	Inverted	90	(41)	90	(41)	90	(41)
	Side	80	(36)	80	(36)	80	(36)
Axial Loading – lbs (kgf)	Smooth operation**	200	(90.7)	200	(90.7)	200	(90.7)
Input Inertia*** – 10 ⁻³ oz-in-sec ² (10 ⁻⁶ kg-m-sec ²)		2.86	(2.06)	3.22	(2.32)	3.76	(2.72)
Maximum Running Torque – oz-in (N-m)	Standard Grade	24	(0.17)	24	(0.17)	24	(0.17)
	Precision Grade	16	(0.11)	16	(0.11)	16	(0.11)
Maximum Breakaway Torque – oz-in (N-m)	Standard Grade	26.4	(0.19)	26.4	(0.19)	26.4	(0.19)
	Precision Grade	17.6	(0.12)	17.6	(0.12)	17.6	(0.12)
Drive Screw Efficiency – %	Standard Grade	80		80		80	
	Precision Grade	90		90		90	
Coefficient of Linear Bearing Friction		0.01		0.01		0.01	
Carriage Weight – lbs (kgf)		4.5	(2.0)	4.5	(2.0)	4.5	(2.0)
Longitudinal Span between Bearing Truck Centers (d1) – in (mm)		3.0	(76.2)	3.0	(76.2)	3.0	(76.2)
Lateral Span between Bearing Rail Centers (d2) – in (mm)		3.4	(86.4)	3.4	(86.4)	3.4	(86.4)
Bearing Rail Center to Carriage Mounting Surface (da) – in (mm)		1.1	(27.9)	1.1	(27.9)	1.1	(27.9)
Table Weight - lbs (kgf)		19	(8.7)	20	(9.1)	21	(9.5)

* Refer to page B41 for load/life graphs ** For applications with vibration, consult factory for axial load capacity

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

Precision Linear Bearing Tables



Imperial or Metric Ball Screw Lead

The ground ball screw is available in 0.2" lead, or for applications requiring metric resolution, a 5 mm lead is also available.

Quality Design

The table is constructed of high quality aluminum alloy and is protected with a clear anodized 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 tables are outfitted with dust cover bellows which cover the screw and linear guide bearings.

Options:

Motor Couplings

A wide range of coupling styles and bores are available to match your motor requirements. Bellows style couplings are required for all precision grade tables and 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 for all models. This mount

accepts motors with an industry standard NEMA 34 flange and shafts with lengths between 1.0 and 1.25 inches.

Limit and Home Switches

Optical sensor type limit and home switch assemblies are available. These are mounted on the inside of the table and are terminated in a connector located next to the motor mount. The limit switches provide a signal when the table is approaching its end of travel which 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.

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 resolution of 0.001 mm are available. Refer to page B80 for linear encoder details.

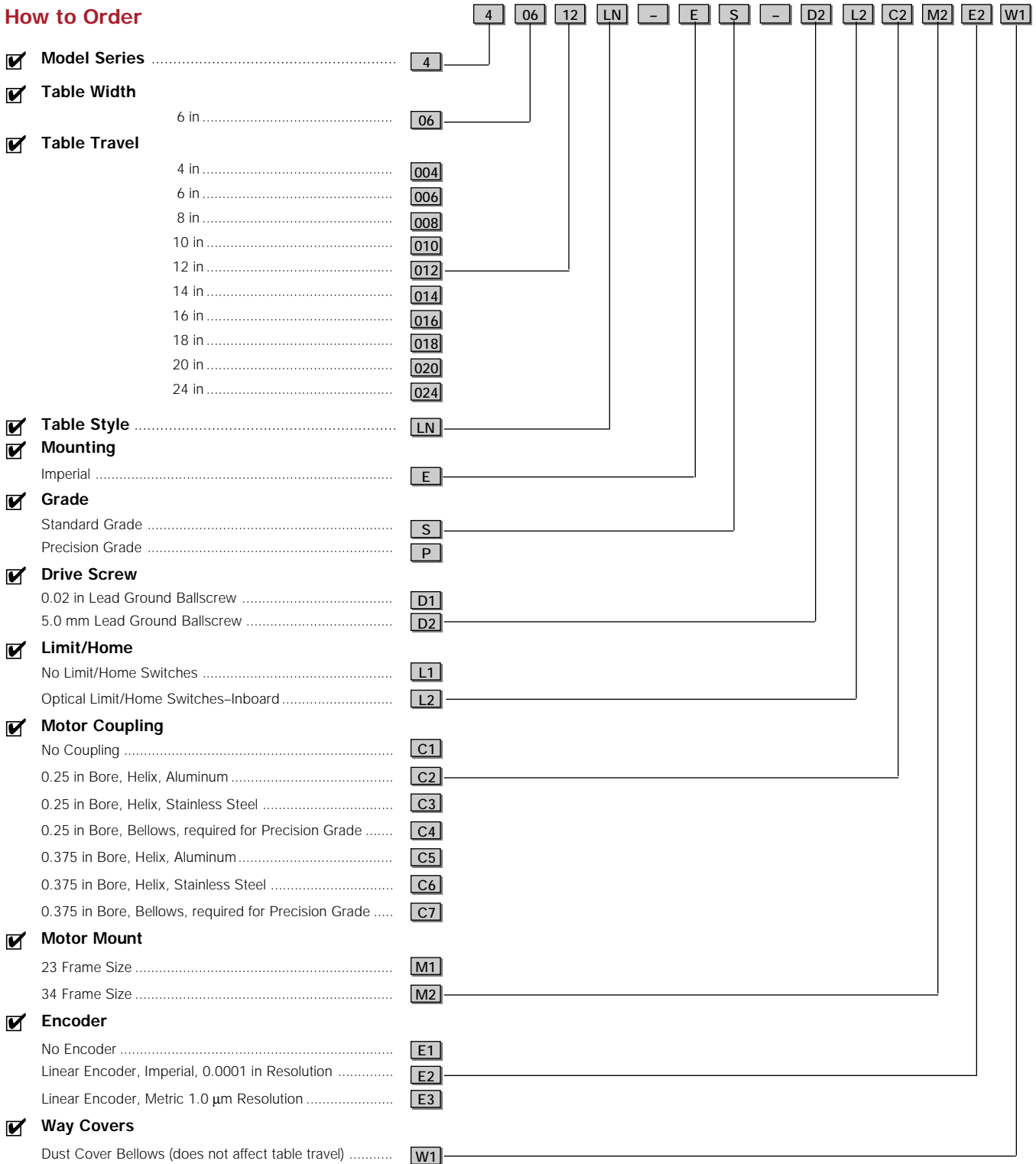
406000LN

406010LN		406012LN		406014LN		406016LN		406018LN		406020LN		406024LN	
10	(250)	12	(300)	14	(350)	16	(400)	18	(450)	20	(500)	24	(600)
100	(2540)	100	(2540)	100	(2540)	100	(2540)	100	(2540)	100	(2540)	100	(2540)
1.0	(25)	1.0	(25)	1.3	(33)	1.6	(41)	1.9	(48)	2.0	(50)	2.0	(50)
0.6	(15)	0.6	(15)	0.76	(19)	0.92	(23)	1.08	(27)	1.2	(30)	1.2	(30)
±0.2	(±5)	±0.2	(±5)	±0.2	(±5)	±0.2	(±5)	±0.2	(±5)	±0.2	(±5)	±0.2	(±5)
±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)	±0.05	(±1.3)
0.6	(15)	0.6	(15)	0.76	(19)	0.92	(23)	1.08	(27)	1.2	(30)	1.2	(30)
0.6	(15)	0.6	(15)	0.76	(19)	0.92	(23)	1.08	(27)	1.2	(30)	1.2	(30)
60		60		40		40		30		30		20	
772	(20)	772	(20)	772	(20)	772	(20)	772	(20)	772	(20)	772	(20)
100%		100%		100%		100%		100%		100%		100%	
600	(273)	600	(273)	600	(273)	600	(273)	600	(273)	600	(273)	600	(273)
360	(164)	360	(164)	360	(164)	360	(164)	360	(164)	360	(164)	360	(164)
320	(145)	320	(145)	320	(145)	320	(145)	320	(145)	320	(145)	320	(145)
150	(68)	150	(68)	150	(68)	150	(68)	150	(68)	150	(68)	150	(68)
90	(41)	90	(41)	90	(41)	90	(41)	90	(41)	90	(41)	90	(41)
80	(36)	80	(36)	80	(36)	80	(36)	80	(36)	80	(36)	80	(36)
200	(90.7)	200	(90.7)	200	(90.7)	200	(90.7)	200	(90.7)	200	(90.7)	200	(90.7)
4.13	(2.98)	4.49	(3.24)	5.04	(3.63)	5.40	(3.90)	5.95	(4.29)	6.31	(4.55)	7.22	(5.21)
24	(0.17)	24	(0.17)	24	(0.17)	24	(0.17)	24	(0.17)	24	(0.17)	24	(0.17)
16	(0.11)	16	(0.11)	16	(0.11)	16	(0.11)	16	(0.11)	16	(0.11)	16	(0.11)
26.4	(0.19)	26.4	(0.19)	26.4	(0.19)	26.4	(0.19)	26.4	(0.19)	26.4	(0.19)	26.4	(0.19)
17.6	(0.12)	17.6	(0.12)	17.6	(0.12)	17.6	(0.12)	17.6	(0.12)	17.6	(0.12)	17.6	(0.12)
80		80		80		80		80		80		80	
90		90		90		90		90		90		90	
0.01		0.01		0.01		0.01		0.01		0.01		0.01	
4.5	(2.0)	4.5	(2.0)	4.5	(2.0)	4.5	(2.0)	4.5	(2.0)	4.5	(2.0)	4.5	(2.0)
3.0	(76.2)	3.0	(76.2)	3.0	(76.2)	3.0	(76.2)	3.0	(76.2)	3.0	(76.2)	3.0	(76.2)
3.4	(86.4)	3.4	(86.4)	3.4	(86.4)	3.4	(86.4)	3.4	(86.4)	3.4	(86.4)	3.4	(86.4)
1.1	(27.9)	1.1	(27.9)	1.1	(27.9)	1.1	(27.9)	1.1	(27.9)	1.1	(27.9)	1.1	(27.9)
22	(10)	23	(10.5)	24	(11)	25	(11.4)	26	(11.8)	27	(12.3)	29	(13.2)

406000LN Series

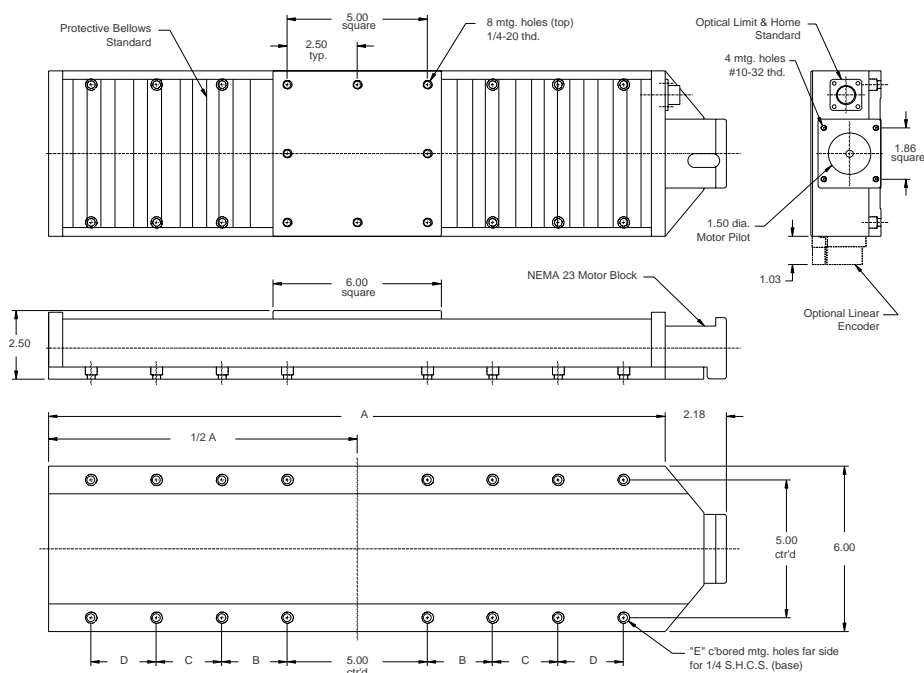
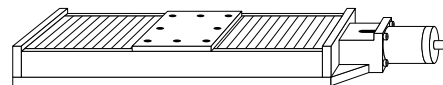
Order Example

How to Order

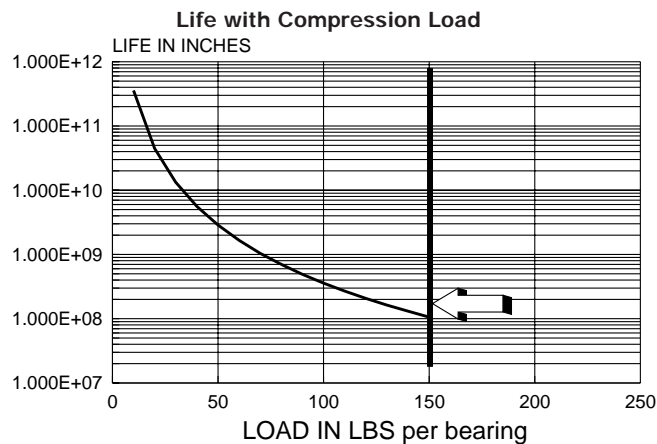


Precision Linear Bearing Tables

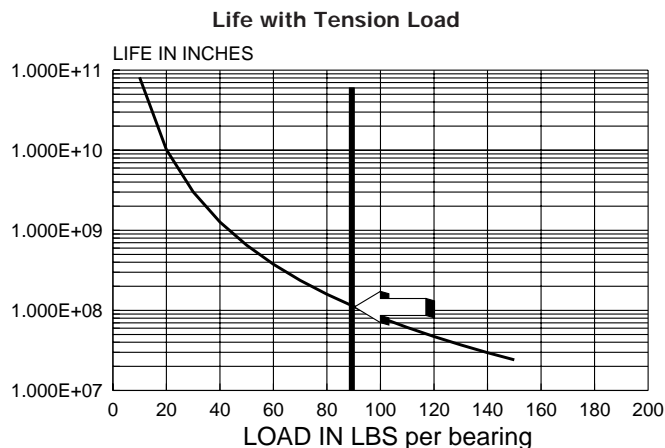
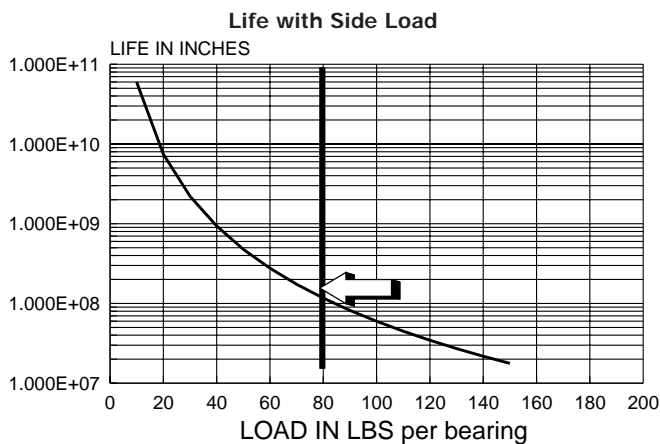
406000LN Series Dimensions



Life/Load Performance



Model	Travel	Base Mounting Holes					Quantity
		A	B	C	D	E	
406004LN	4 in	13 in	3	—	—	8	
406006LN	6 in	15 in	4	—	—	8	
406008LN	8 in	18 in	5	—	—	8	
406010LN	10 in	20 in	6	—	—	8	
406012LN	12 in	22 in	4	3	—	12	
406014LN	14 in	25 in	5	4	—	12	
406016LN	16 in	27 in	5	5	—	12	
406018LN	18 in	30 in	6	5	—	12	
406020LN	20 in	32 in	6	6	—	12	
406024LN	24 in	37 in	5	5	5	16	



406000LN