

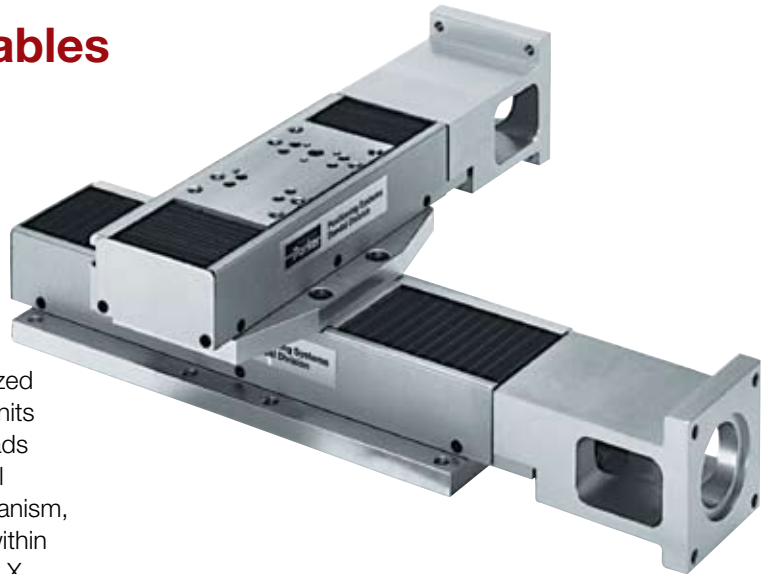


402LN Series Miniature Tables

Features

- Compact size
- Ballscrew or leadscrew drive
- New 8 mm lead ballscrew
- High strength square rail bearing system
- Life rating: 10 million inches (ballscrew)
- Protective bellow style way cover

This series of compact tables are the smallest motorized linear positioners in the Parker line. These all metric units are designed for repeatable positioning of light payloads over relatively short distances. A dual track square rail bearing system, a ballscrew or leadscrew drive mechanism, and integral protective way covers are all contained within a table housing having a cross section of only 33 mm X 60 mm. The 402LNs are utilized in applications requiring horizontal, inverted, or vertical translation, and they are offered in two grades (precision or standard) to provide cost vs performance alternatives.



Screw Driven
Tables

Options

Motor Mounts and Couplings

Selectable motor mounting for NEMA size 17 or 23 stepper motor or a size 16 servo motor. Motor shaft couplings available to match motor requirements.

Limit and Home Sensors

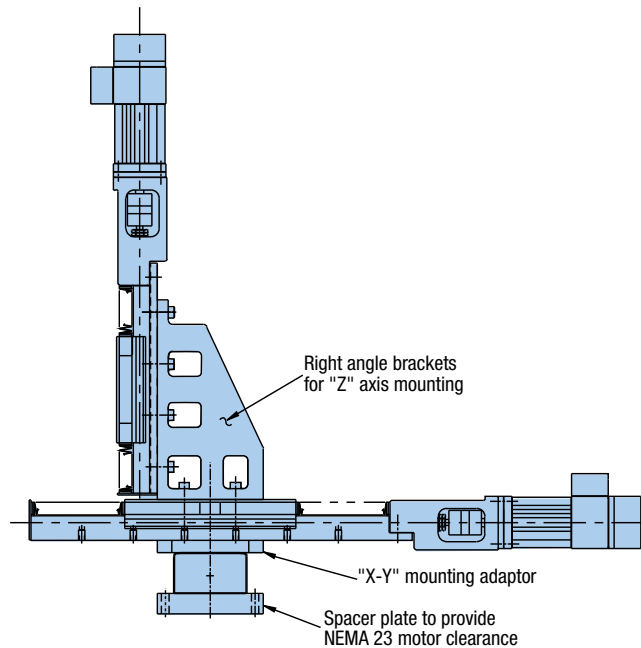
End of Travel and home reference sensors are offered in both Hall Effect and Optical versions. The Hall Effect sensors allow easy adjustment while the Optical sensors provide a higher repeatability option.

Mounting Brackets

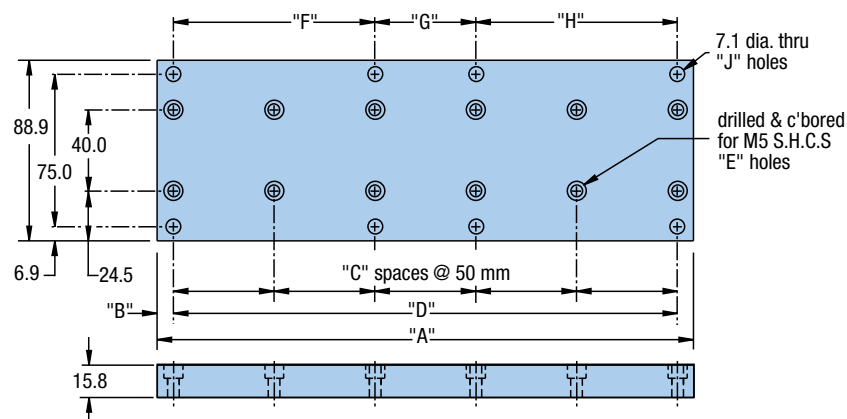
Convenient Brackets offer easy installation for vertical and multi-axis mounting of the tables.

402LN Series Miniature Accessories

Example of Multi-Axis Mounting



Base Axis Spacer Plate

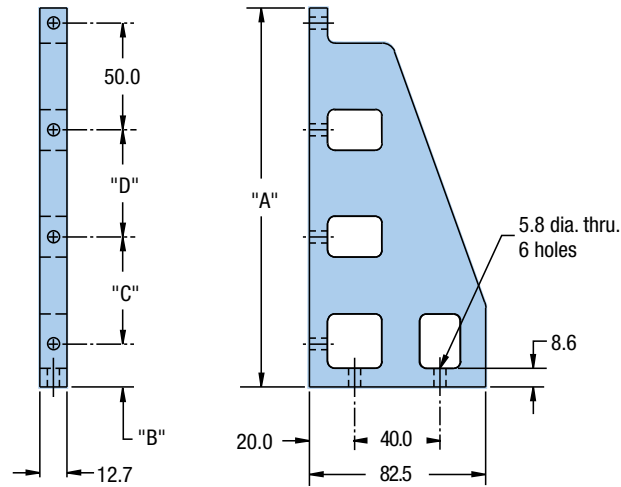


Model Number	A	B	Quantity C	D	Quantity E	F	G	H	J	Used on:
100-0248-01	165 mm	7.5 mm	3	150 mm	8	150 mm	—	—	4	402002/402004
100-0248-02	267 mm	8.5 mm	5	150 mm	12	100 mm	50 mm	100 mm	8	402006



402LN Series Miniature Accessories

Vertical Brackets

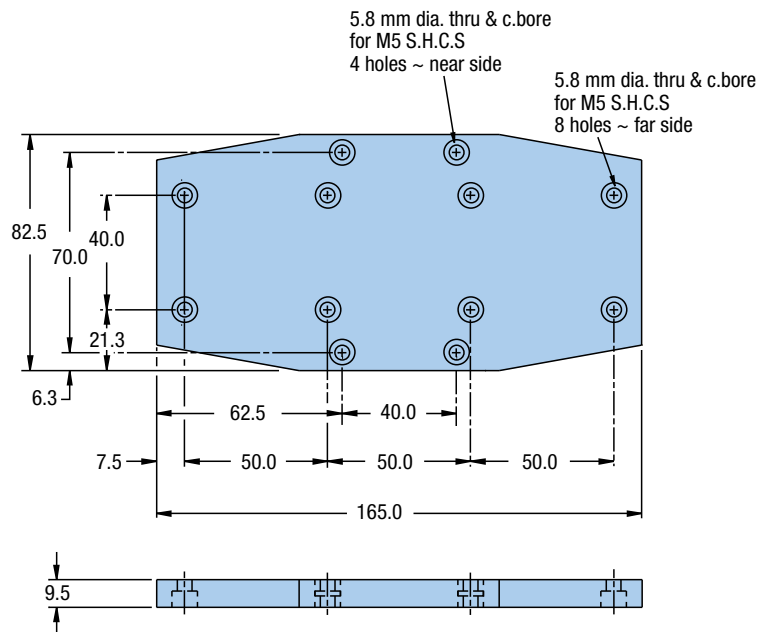


Model Number	A	B	C	D	Used on:
100-0160-01	180	20	50	50	402002
100-0160-03	210	50	50	50	402004
100-0160-04	296	36	100	100	402006

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X-Y Adaptor Plate

Model #000-9987-01



Specifications

			Leadscrew Drive						Ballscrew Drive*			
Units			402002		402004		402006		402002		402004	
Travel			inch (mm)	2 (50)	4 (100)	6 (150)	2 (50)	4 (100)	2 (50)	4 (100)	2 (50)	4 (100)
Performance												
Life (@ rated specification)		x 1 million in (km)	10 (250)	10 (250)	10 (250)	10 (250)	100 (2500)	100 (2500)	100 (2500)	100 (2500)	100 (2500)	100 (2500)
Positional Repeatability (bidirectional)	Std. Grade Prec. Grade	x 0.001 in (μm)	±0.47 (±12) ±0.12 (±3)	±0.47 (±12) ±0.12 (±3)	±0.47 (±12) ±0.12 (±3)	±0.47 (±12) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)	±0.2 (±5) ±0.12 (±3)
Positional Accuracy over total travel	Std. Grade Prec. Grade	x 0.001 in (μm)	3.0 (75) 0.8 (20)	3.0 (75) 0.9 (22)	3.0 (75) 0.9 (22)	3.0 (75) 0.9 (24)	1.2 (30) 0.8 (20)	1.3 (32) 0.9 (22)	1.2 (30) 0.8 (20)	1.3 (32) 0.9 (22)	1.2 (30) 0.8 (20)	1.3 (32) 0.9 (22)
Straight & Flatness Accuracy over total travel	Std. Grade Prec. Grade	x 0.001 in (μm)	0.8 (20) 0.24 (6)	0.9 (22) 0.24 (6)	0.9 (22) 0.24 (6)	0.9 (24) 0.31 (8)	0.8 (20) 0.24 (6)	0.9 (22) 0.24 (6)	0.8 (20) 0.24 (6)	0.9 (22) 0.24 (6)	0.8 (20) 0.24 (6)	0.9 (22) 0.24 (6)
Max Screw Speed	Std. Grade Prec. Grade	rps	15 25	15 25	15 25	15 25	70 70	70 70	70 70	70 70	70 70	70 70
Max Acceleration	Both Grade	in/sec ² (mm/sec ²)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)	386 (9800)
Duty Cycle	Std. Grade Prec. Grade	%	50 75	50 75	50 75	50 75	100 100	100 100	100 100	100 100	100 100	100 100
Rated Capacity**												
Direct Loading	Normal Inverted	lbs (Nf)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)	160 (711) 40 (178)
Load per Bearing (both grades)	Normal Inverted	lbs (Nf)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)	40 (178) 10 (44)
Axial Loading	Std. Grade Prec. Grade	lbs (Nf)	10 (44) 28 (124)	10 (44) 28 (124)	10 (44) 28 (124)	10 (44) 28 (124)	28 (124) 28 (124)	28 (124) 28 (124)	28 (124) 28 (124)	28 (124) 28 (124)	28 (124) 28 (124)	28 (124) 28 (124)
Motor Sizing												
Drive Screw diameter		in (mm)	0.375 (9.5)	0.375 (9.5)	0.375 (9.5)	0.375 (9.5)	0.315 (8)	0.315 (8)	0.315 (8)	0.315 (8)	0.315 (8)	0.315 (8)
Input Inertia***		10 ⁻³ oz-in-sec ² (10 ⁻⁶ N-m-sec ²)	0.412 (2.91)	0.612 (4.32)	0.812 (5.73)	0.812 (5.73)	0.314 (2.22)	0.343 (2.42)	0.314 (2.22)	0.343 (2.42)	0.314 (2.22)	0.343 (2.42)
Running Torque - Max		oz-in (N-m)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)	12 (.085)
Breakaway Torque - Max		oz-in (N-m)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)	13 (.094)
Drive Screw Efficiency	Both Grades	%	30	30	30	30	90	90	90	90	90	90
Coefficient of Friction - Linear Bearing			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Carriage Weight		lbs (kg)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)	0.14 (.06)
Table Weight		lbs (kg)	1.84 (.83)	2.54 (1.15)	3.12 (1.42)	3.12 (1.42)	1.84 (.83)	2.54 (1.15)	1.84 (.83)	2.54 (1.15)	1.84 (.83)	2.54 (1.15)

*Specifications apply to 2 mm lead option. Consult Parker applications engineer for 8 mm lead option specifications.

**Refer to Parker's web site for complete Life/Load and moment load calculation formulas and specifications.

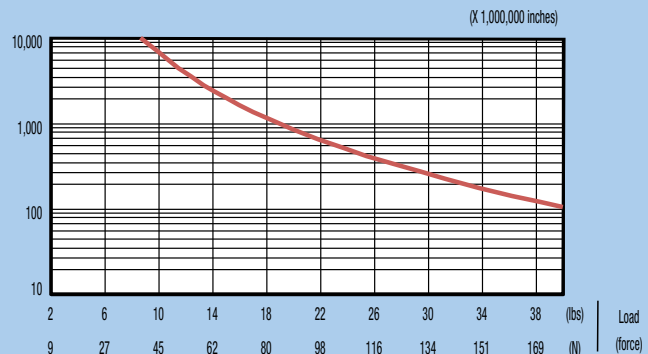
***Based on 5 mm leadscrew.

Life/Load Performance (per Bearing*)

Life for Compression, Tension, or Side Load

*Four bearings per unit.

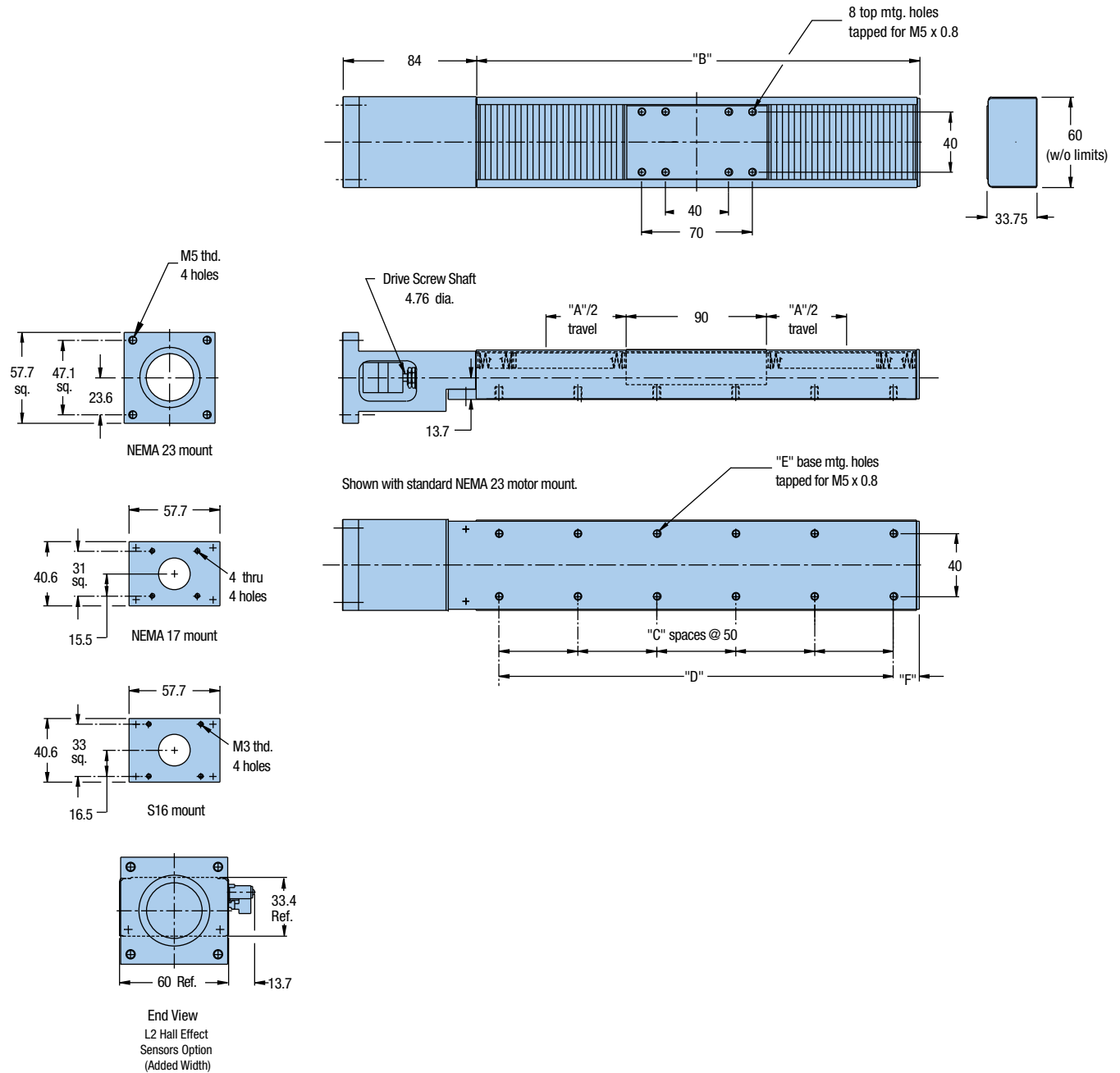
Refer to parkermotion.com for complete Life/Load calculation formulas and specifications.





402LN Series Dimensions

Dimensions (mm)



Screw Driven
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Model Number	Travel A	B	Quantity C	D	Quantity E	F
402002LN	50 mm	167 mm	3	150 mm	8	8 mm
402004LN	100 mm	240 mm	3	150 mm	8	45 mm
402006LN	150 mm	312 mm	5	250 mm	12	31 mm

Fill in an order code from each of the numbered fields to create a complete model order code.

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Order Example: 402 002 LN – M P – D1 L2 C1 M2

① **Series**

402

② **Table Travel**

002 50 mm
004 100 mm
006 150 mm

③ **Table Style**

LN

④ **Mounting**

M Metric

⑤ **Grade**

S Standard
P Precision

⑥ **Drive Screw**

D1 1 mm leadscrew (precision grade only)
D2 2 mm leadscrew
D3 5 mm leadscrew
D4 12 mm leadscrew (standard grade only)
D5 25 mm leadscrew (standard grade only)
D6 2 mm ground ballscrew
D7 8 mm ground ballscrew

⑦ **Limit/Home**

L1 No limit/home switches
L2 Hall effect sensors
L3 Fixed optical limit/home switches

⑧ **Motor Coupling**

C1 No coupling
C2 0.25 in bore, Oldham
C3 5 mm bore, Oldham
C4 0.25 in bore, bellows
C5 5 mm bore, bellows
C6 0.375 in bore, bellows

⑨ **Motor Mount**

M1 NEMA 23
M2 SM16 motor
M3 NEMA 17