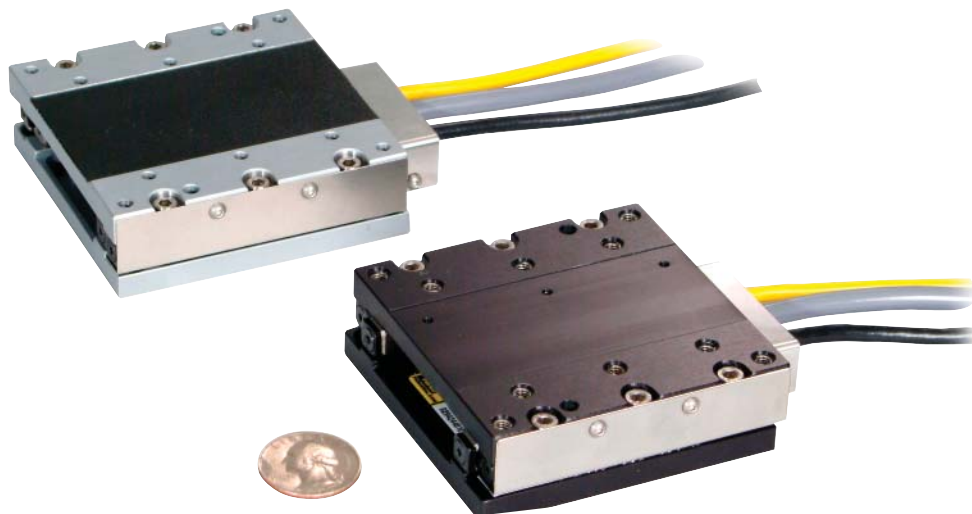




MX80L Miniature Linear Motor Stages

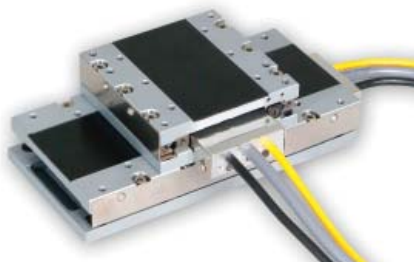
Features

- Miniature size
- 5g acceleration
- Fast settling
- Submicron precision
- High velocity (2 m/sec.)
- Multi-axis platform



Attributes:

- Low profile miniature size - (25 mm high X 80 mm wide)
- Linear servo motor drive
- Six linear encoder resolutions (0.01 μm to 5.0 μm)
- 25, 50, 100, 150 mm travels
- Cross Roller bearing (zero cage creep design)
- Precision or standard grade
- Cleanroom and low ESD options
- Fully adjustable home and limit sensors
- Dowel holes for repeatable mounting of payload
- Master reference surface to travel path
- “Plug-in” intelligent drive
- Pneumatic z-axis counterbalance
- No moving cables



Introduction

Miniaturization of fiber optics, photonics, electronics and biomedical processes has driven the need for smaller and more efficient positioners. Parker's MX80 miniature stage, the smallest linear servomotor driven positioner in the industry, is loaded with high performance features for both rapid linear translation and precise positioning of lighter loads in small work envelopes. Designed for today's 24/7 production demands, the MX80 has redefined “high-throughput automation” in the world of miniature positioners.

High Performance in a small package: While the MX80 is small in size, it is large on performance and reliability. All key components are “built-in” - residing within the body of the stage to provide a clean looking, reliable, unobstructed package. At the heart of the MX80 is an innovative non-contact linear servo motor (patent pending). This direct drive motor has been optimized for force, speed, and acceleration, to deliver outstanding performance and response. A high precision non-contact linear encoder provides submicron resolution, repeatability and accuracy.

Selectable resolutions range from 10 nanometers to 5 microns. Precision ground cross roller bearing sets with a “zero cage creep” feature provide extremely smooth - precise linear translation. Digital Hall effect travel limit and home sensors are conveniently designed into the unit for easy adjustment over the entire travel of the stage. Although there are no moving cables, a meter of hi-flex cabling is included and wired directly into the units. This hi-flex cabling addresses cable flexing concerns associated with the second or third axis in multi-axis system.

MX80L Miniature Linear Motor Stages

Precision Series

Precision grade models are designed for high performance applications requiring the highest degree of positioning accuracy. They offer a steel body design with precisely ground mounting surfaces & bearing ways. They include higher resolution linear encoders, and are slope corrected, laser tested and certified for optimum precision.

- 4g acceleration
- Repeatability to $\pm 0.4 \mu\text{m}$
- Straightness $\pm 0.4 \mu\text{m}$
- Steel body construction
- Precision ground mounting and bearing surfaces
- Hard chrome protective finish



Standard Series

Standard grade units offer a lower cost alternative for applications requiring high throughput performance with less demanding positioning requirements. They are constructed of high alloy aluminum, providing a lighter weight design which can accelerate to 5 g's.

- 5g acceleration
- Repeatability to $\pm 0.8 \mu\text{m}$
- Straightness $\pm 0.8 \mu\text{m}$
- Light weight aluminum body
- Low luster black anodize finish



Specifications:

	Travel			
	25mm	50mm	100mm	150mm
Normal Load Capacity	8kg(18 lb)	8kg(18 lb)	8kg(18 lb)	8kg(18 lb)
Maximum Acceleration				
Precision Grade	4g	4g	4g	3g
Standard Grade	5g	5g	5g	4g
Maximum Velocity				
5.0µm resolution	1100 mm/sec	1500 mm/sec	2000 mm/sec	2000 mm/sec
1.0µm resolution	1100 mm/sec	1500 mm/sec	2000 mm/sec	2000 mm/sec
0.5µm resolution	1100 mm/sec	1500 mm/sec	1500 mm/sec	1500 mm/sec
0.1µm resolution	300 mm/sec	300 mm/sec	300 mm/sec	300 mm/sec
0.02µm resolution	60 mm/sec	60 mm/sec	60 mm/sec	60 mm/sec
0.01µm resolution	30 mm/sec	30 mm/sec	30 mm/sec	30 mm/sec
Peak Force	12N (2.7 lb)	12N (2.7lb)	24N (5.4 lb)	24N (5.4 lb)
Continuous Force	4N (.9 lb)	4N (.9 lb)	8N (1.8 lb)	8N (1.8 lb)
Duty Cycle	100%	100%	100%	100%
Straightness & Flatness				
Precision Grade	4 microns	4 microns	5 microns	6 microns
Standard Grade	6 microns	6 microns	10 microns	12 microns
Positional Accuracy				
Precision Grade ⁽¹⁾⁽²⁾⁽³⁾				
0.01 µm resolution	3 microns	4 microns	5 microns	5 microns
0.02 µm resolution	3 microns	4 microns	5 microns	5 microns
0.1 µm resolution	3 microns	4 microns	5 microns	5 microns
0.5 µm resolution	4 microns	5 microns	6 microns	6 microns
1.0 µm resolution	5 microns	6 microns	7 microns	7 microns
5.0 µm resolution	13 microns	14 microns	15 microns	15 microns
Standard Grade ⁽²⁾				
0.01 µm resolution	12 microns	15 microns	20 microns	20 microns
0.02 µm resolution	12 microns	15 microns	20 microns	20 microns
0.1 µm resolution	12 microns	15 microns	20 microns	20 microns
0.5 µm resolution	12 microns	15 microns	20 microns	20 microns
1.0 µm resolution	15 microns	20 microns	25 microns	25 microns
5.0 µm resolution	25 microns	30 microns	35 microns	35 microns
Bi-directional Repeatability				
Precision Grade ⁽¹⁾⁽²⁾⁽³⁾				
0.01 µm resolution			+0.4 microns	
0.02 µm resolution			+0.4 microns	
0.1 µm resolution			+0.5 microns	
0.5 µm resolution			+1.0 microns	
1.0 µm resolution			+2.0 microns	
5.0 µm resolution			±10.0 microns	
Standard Grade ⁽²⁾				
0.01 µm resolution			+0.8 microns	
0.02 µm resolution			+0.8 microns	
0.1 µm resolution			+0.8 microns	
0.5 µm resolution			+1.5 microns	
1.0 µm resolution			+2.0 microns	
5.0 µm resolution			±10.0 microns	
Unit Mass				
Precision Grade	590g	590g	1027g	1345g
Standard Grade	475g	475g	875g	1125g
Carriage Mass (unloaded)				
Precision Grade	282g	282g	509g	676g
Standard Grade	213g	213g	405g	537g

(1) Measured at the carriage center, 35mm above the mounting surface @ 20 C with no load. Unit bolted to granite surface, flat to within 1micron/300mm.

(2) Total accuracy and bi-directional repeatability over full travel (peak to peak).

(3) Precision grade with slope correction value provided. Consult factory if better accuracy is required.

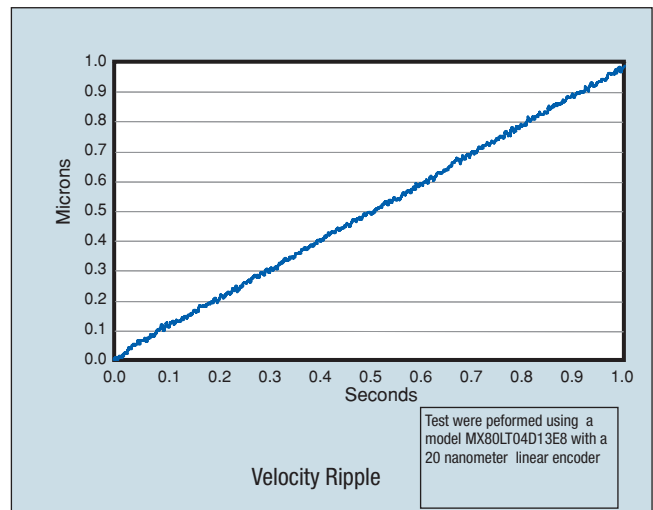
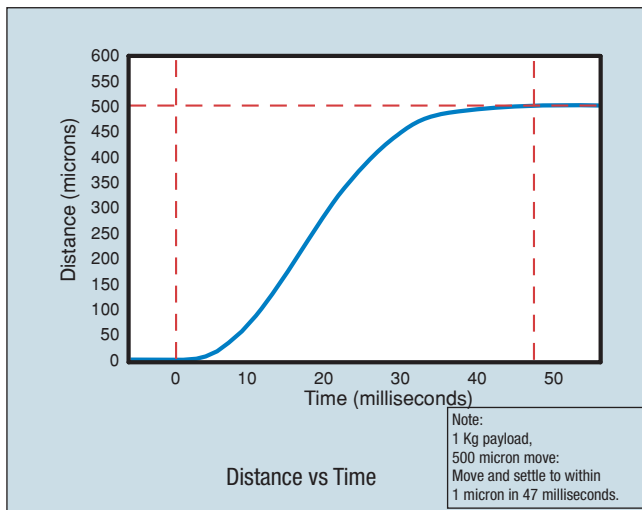
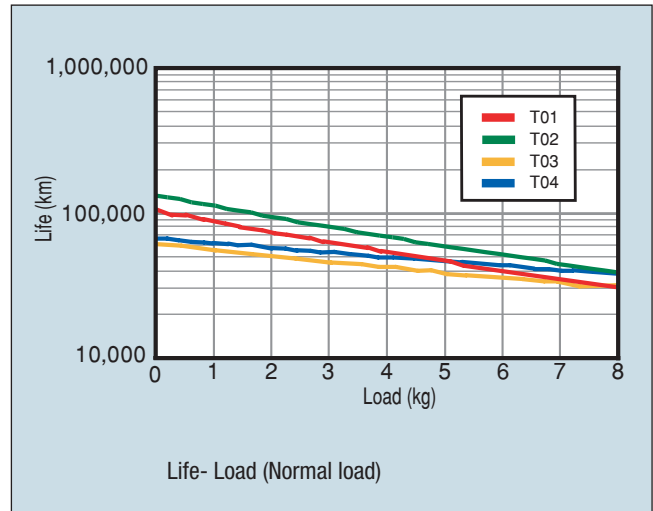
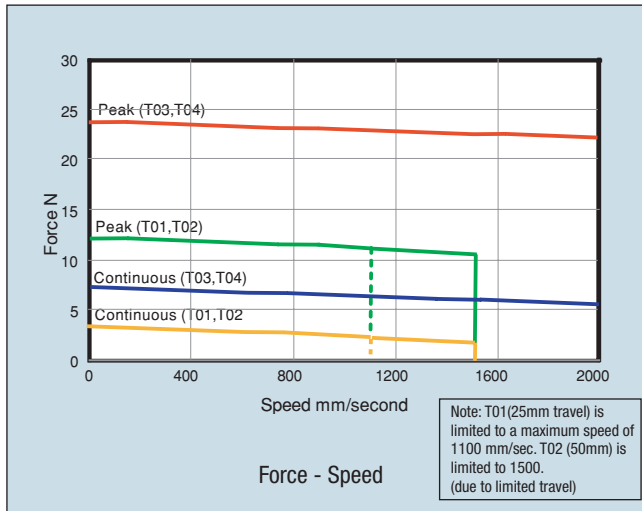
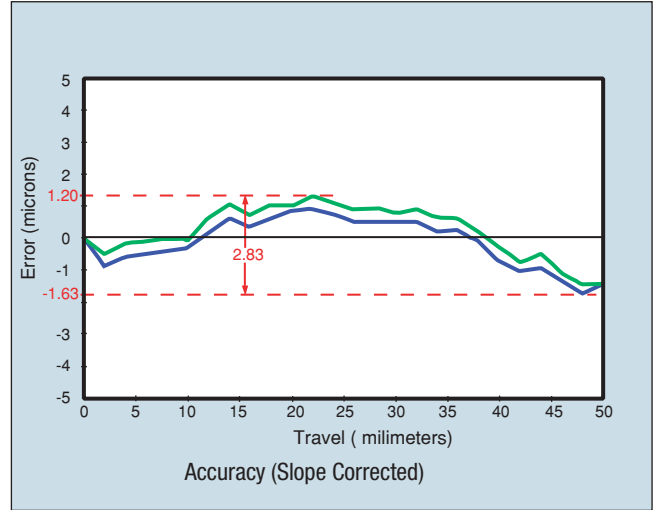
MX80L Miniature Linear Motor Stage

Specifications:

How we measure accuracy:

All published linear table accuracy and repeatability specifications vary according to testing and reporting methodology. Parker methodology includes data reporting over the entire table travel length, regardless of the start or stop position.

Testing is performed with the table unloaded and mounted to a stable granite surface, at 20° C. Accuracy and repeatability specifications are based on a peak to peak range of error, measured by a laser interferometer with the beam located 35mm above the center of the table top. The reported error totals six degrees of freedom (x,y,z, plus roll, pitch and yaw errors). Final table specifications are established from the maximum positive (+) error to the maximum negative (-) error.





CM04 to CM07



“Plug & Run” Cables Options

- High flex cables
- Plug-in compatibility with ViX drive
- CE compliant connectors and shielding
- CE compliant ferrite beads
- Color coded jackets and labeling

“User convenience” is high on the list of cable attributes found in the MX80. The high flex cabling and connectors are reliable, durable and offer easy hook-up for “plug and run” installation. The cables are connectorized at the stage for easy field replacement and connectorized at the opposite end for ease of installation with the Parker Vix servo drive.

E_

Encoder Options A non-contact linear optical encoder provides a quadrature output and offers resolution ranging from 10 nanometer to 5 micron. On the MX80L, the encoder is internal to the stage body. There is no increase to the footprint of the unit and no additional external cabling is required.

H_ L_

Home and Limit Sensors Digital Hall effect home and limit sensors are completely housed within the body of the stage. An innovative design adds functionality without sacrificing geometry. Sensor triggers can be easily adjusted over the travel. The output format is an open collector type capable of sinking up to 50ma, and be set as N.O or N.C.



Zero Cage Creep Feature

High acceleration and smooth translation are both desired attributes in a linear-motor stage. The cross roller bearing system found in the MX80 provides extremely smooth linear translation, and with an anti-cage creep design, operates very well in high acceleration

applications. This design employs a rack and pinion feature within the bearing races to eliminate bearing creep. As a result, the MX80 performs well, even at 5g acceleration.

R2 R20



Cleanroom Option

Both Precision and Standard grade products can be prepared for cleanroom compatibility. Preparation involves material changes, element modification and cleanroom compatible lubricants. The MX80L and MX80S with the R2 option are class 10 cleanroom compatible. When applying an XY or

XYZ combination in a cleanroom environment, moving wires need to be considered - please consult a Parker application engineer. The R20 option includes both - low ESD and cleanroom preparation.

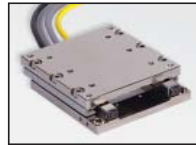
Tooling Features



Innovative tooling features make mounting and alignment much quicker and easier.

- A hardened steel master reference surface is provided along the side of the stage to allow fixturing or other tooling elements to be precisely aligned with the actual travel path.
- Two dowel pin holes are provided on the carriage top and base for repeatable mounting of positioner or tooling.

R10 R20



Low ESD Coating

An optional ‘low ESD’ electroless nickel or Armoloy coating is offered for improved electrical conductivity, providing a low resistance to ground path for electric discharge.

R1

Environmental Protection Both precision and standard grade units have a hard coat protective finish. The precision units have a hard coat (Rc 78) satin chrome finish, and the standard units have a low lustre black anodized finish.

X2



Z-axis Counterbalance Option

A pneumatic Z-axis counterbalance is offered to prevent a sudden load drop if power to the motor is interrupted. A controlled vertical force is applied to the stage top to negate the effect of gravity and achieve equilibrium. A precisely regulated clean air supply of 0 to 60 psi is required for operation.



Pneumatic Accessory Package (Part Number 002-2236-01)

This accessory is offered for use with the X2 pneumatic counterbalance option. It consists of a pre-filter, a pressure regulator, a coalescing filter, and a precision regulator to precisely regulate air pressure and remove oil, water or debris down to 3 microns.

ViX Intelligent Servo & controller

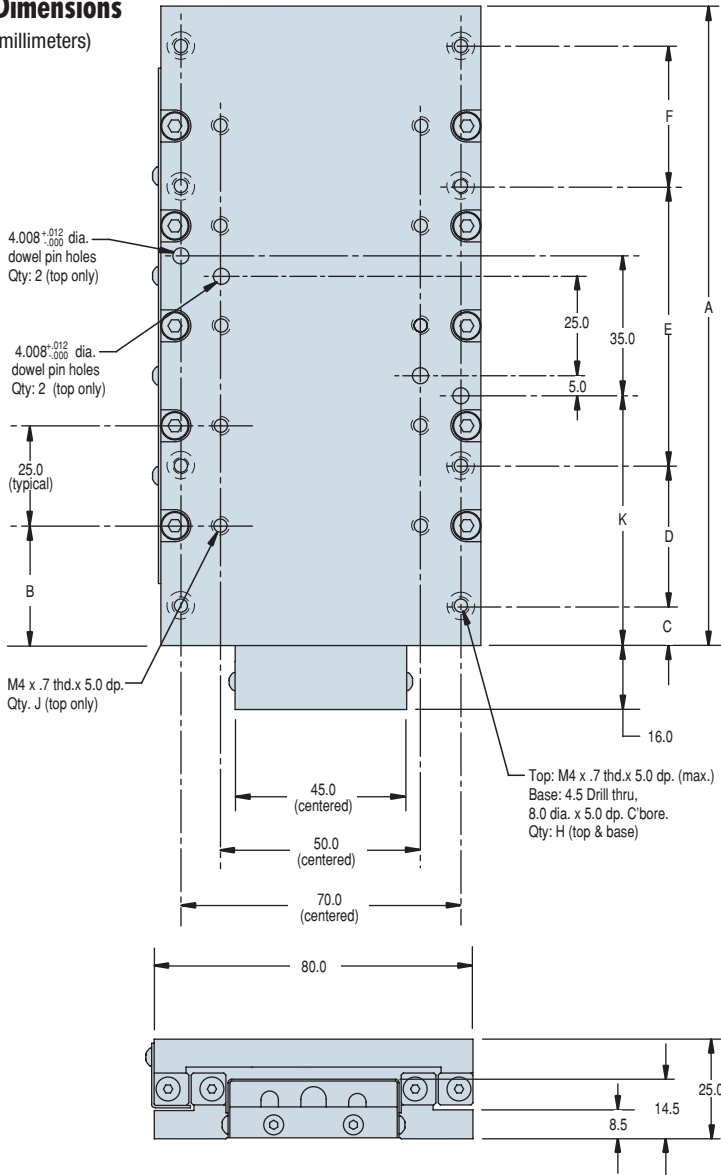
A1 A20 A21 A22 A25

The Vix servo drives are the perfect drive solution to be paired with the MX80 family. Depending on the selected version, the Vix will be configured for force, velocity, or step/direction input command signals. In addition, a complete packaged servo drive and controller is available.”

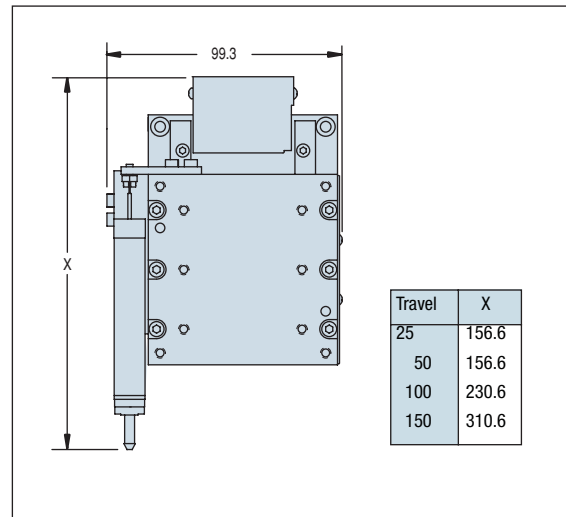
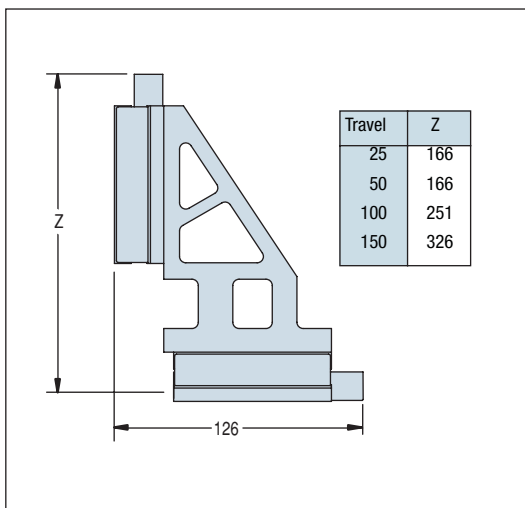


MX80L Series

Dimensions (millimeters)



Travel	Dimensions (mm)								
	A	B	C	D	E	F	H	J	K
25	80	15	5	70	n/a	n/a	4	6	22.5
50	80	15	5	70	n/a	n/a	4	6	22.5
100	160	30	10	35	70	35	8	10	62.5
150	210	30	5	65	70	65	8	14	87.5





Order Example:

MX80L T02 M P D11 H3 L2 CM05 Z3 E8 R1 A25 X1 S1

Model

MX80L

Travel 25 mm

T01

50 mm

T02

100 mm

T03

150 mm

T04

Mounting (metric)

M

Grade Precision

P

Standard

S

Drive Type

None - Free Travel

D1

4 Pole(25 & 50 mm travel only)

D11

8 Pole(100 & 150 mm travel only)

D13

Home Sensor

None

H1

N.C. Current Sinking

H2

N.O. Current Sinking

H3

Limit Sensor

None

L1

N.C. Current Sinking

L2

N.O. Current Sinking

L3

Cable Options

No Cables (free travel only)

CM03

1.0 meter high-flex cables w/ ViX connector

CM04

3.0 meter high-flex cables w/ ViX connector

CM05

1.0 meter high-flex cables w/ ViX connector
(no limit/home cable)

CM06

3.0 meter high-flex cables w/ ViX connector
(no limit/home cable)

CM07

X-Y Orthogonality

- S1 None (no X-Y configuration)
- S2 X axis unit (cables @12 o'clock)
- S3 60 arc sec. - Y-axis (3 o'clock)
- S4 60 arc sec. - Y-axis (9 o'clock)
- S5 15 arc sec. - Y-axis (3 o'clock)
- S6 15 arc sec. - Y-axis (9 o'clock)

Other Options

- X1 None
- X2 Z-axis Pneumatic c'balance

Digital Drive Options

- A1 No drive
- A20 ViX250-AH force mode
- A21 ViX250-AH velocity mode
- A22 ViX250-AH step/direction mode
- A25 ViX 250-IH drive/controller

Environmental Options

- R1 Standard finish
- R2 Clean room prep.
- R10 Low ESD finish
- R20 Low ESD finish and clean room prep.

Digital Linear Encoder

- E1 No encoder (free travel only)
- E2 1.0 micron resolution
- E3 0.5 micron resolution
- E4 0.1 micron resolution
- E5 5.0 micron resolution
- E8 .02 micron resolution (20 nanometer)
- E9 .01 micron resolution (10 nanometer)

Z-Channel Location

- Z1 No Z-Channel (free travel only)
- Z3 Center Position

LX80L Linear Motor Tables

Features

- Velocity to 3 m/sec
- Acceleration to 5 g's
- Encoder resolution to 0.1 micron
- Cleanroom compatible
- Easy multi-axis mounting
- Internal cable management



Introduction

Miniaturization of life sciences, electronics, photonics, and fiber optic processes has driven the need for smaller and more efficient positioners. Parker's MX80, the smallest linear servomotor driven positioner in the industry, has redefined 'high-throughput automation' in the world of miniature positioners. It is loaded with high performance features for both rapid linear translation and precise positioning of smaller loads within very small work envelopes. The LX80L picks up where the MX80 leaves off, offering longer travels than the MX80 while maintaining a very small profile. Like the MX80, it is designed to meet the rigors of today's 24/7 production demands.

High Performance in a small package

Although it has a small profile, the LX80L is large on performance and reliability. All key components are "built-in", residing within the body of the table to provide a clean looking, reliable, unobstructed package. At the heart of the LX80L is an innovative non-contact linear servo motor (patent pending). This direct drive motor has been optimized for force, speed, and acceleration to deliver outstanding performance and response. A high precision non-contact linear encoder provides submicron resolution, repeatability and accuracy with selectable resolutions ranging from 0.1 microns to 5 microns. Digital Hall effect travel limit and home sensors are conveniently designed into the unit for easy adjustment over the entire travel of the table.

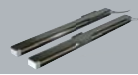
Precision square rail bearings provide load support and precise linear translation, while effectively countering the problematic effects of heat, high speeds, and high acceleration. Cable management is neatly packaged inside the unit so no moving cables are visible. From the end of the unit, "hi-flex" cabling is provided for direct connection to the servo drive. This "hi-flex" cabling alleviates cable flexing concerns associated with the second or third axis in multi-axis system.

Flexibility and Multi-Axis Compatibility

The LX80L's selection flexibility and mounting compatibility with the MX80 miniature tables enables single axis or complex multi-axis units to be configured in a straightforward manner. Parker's matching servo drives and motion controllers can be included to complete the motion system.

Customs and Systems

For specialized applications requiring customization, Parker design engineers can easily modify LX80L tables to suit all application specific requirements. Parker has taken the mystery, difficulty and cost out of integrating linear motor tables into high throughput precision positioning applications.

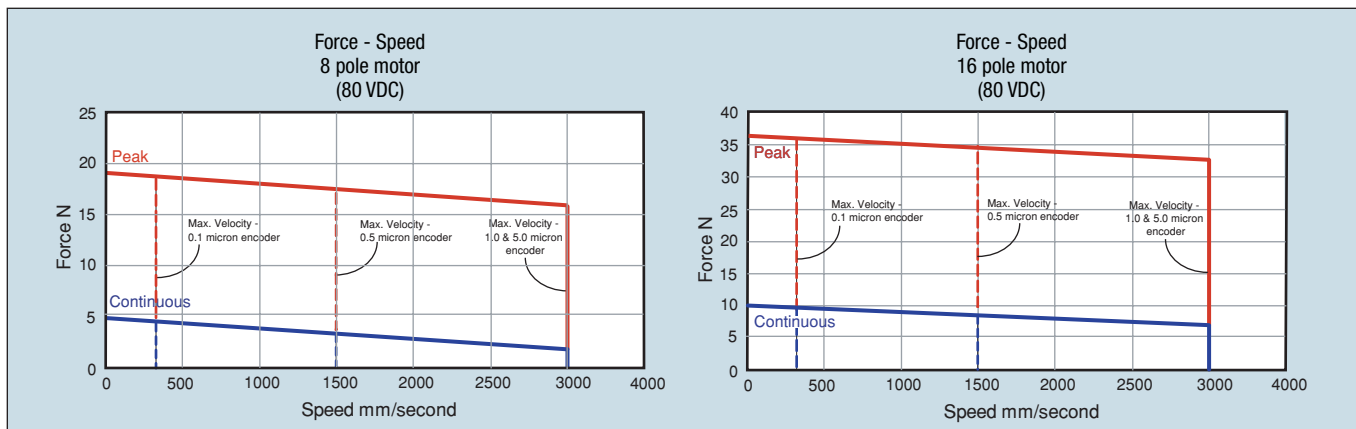


Specifications		8 Pole Single Rail	8 Pole Double Rail	16 Pole Single Rail	16 Pole Double Rail
Rated Load (kg)		3(6.5 lb.)	3(6.5 lb.)	6(13 lb.)	6(13 lb.)
Maximum Acceleration		5 g's			
Maximum Velocity (m/sec.)					
Encoder Resolution:	0.1 μm			0.3	
	0.5 μm			1.5	
	1.0 μm			3.0	
	5.0 μm			3.0	
Positional Repeatability(μm)					
Encoder Resolution:	0.1 μm	+ 2.5	+ 1.5	+ 2.5	+ 1.5
	0.5 μm	+ 2.5	+ 1.5	+ 2.5	+ 1.5
	1.0 μm	+ 3.5	+ 2.5	+ 3.5	+ 2.5
	5.0 μm	+ 10.0	+ 10.0	+ 10.0	+ 10.0
Maximum Peak Force N (lb)		19 (4.3)	19 (4.3)	36 (8.1)	36 (8.1)
Maximum Continuous Force N (lb)		4.7 (1.0)	4.7 (1.0)	10 (2.2)	10 (2.2)
Maximum Moment (Nm) .75		1.5	1.5	.75	3.0
Carriage Weight (g)		287	388	476	648

Travel Dependent Specifications

Code	Travel		Accuracy* (μm)		Straightness & Flatness* (μm)	Length "L" (mm)	Unit Weight	
	8 pole (mm)	16 pole (mm)	0.1,0.5,1.0 resolution (μm)	5.0 resolution (μm)			8 pole (kg)	16 pole (kg)
Double Rail Models								
T02	150	80	8	18	9	325	1.590	1.854
T04	250	180	12	22	14	425	1.944	2.207
T06	350	280	16	26	19	525	2.300	2.563
T08	450	380	20	30	24	625	2.652	2.915
T10	550	480	23	33	29	725	3.006	3.269
T14	750	680	29	39	37	922	3.713	3.976
Single Rail Models								
T02	150	80	12	22	13	325	1.396	1.586
T04	250	180	16	26	18	425	1.714	1.905
T06	350	280	20	30	23	525	2.035	2.225
T08	450	380	24	34	28	625	2.352	2.543
T10	550	480	27	37	33	725	2.671	2.861
T14	750	680	33	43	41	922	3.308	3.498

* Accuracy stated is at 20 degrees C, utilizing slope correction factor provided.



Cable Management

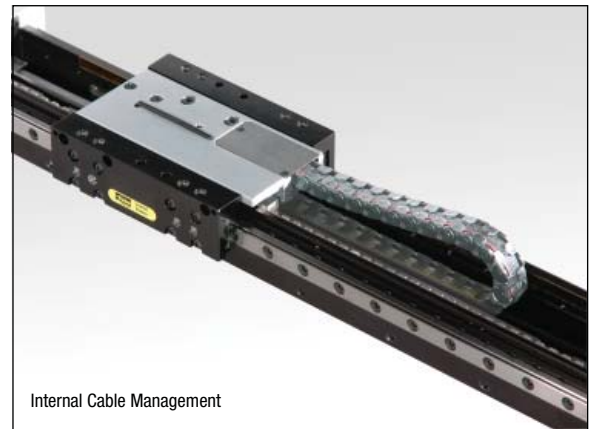
“Plug & Run” Cables

“User Friendly” and “robust” were the goals of the cabling design. All cables are ‘hi-flex’ for durability and are fully shielded. The cables are labeled for quick identification and have connectors at critical locations to simplify use. The drive end terminations are ViX series servo drive compatible and have CE compliant connectors including a ferrite bead to improve EMI immunity.



Internal Cable Management

The LX80’s pre-engineered internal cable management offers several benefits. It preserves the LX80’s narrow footprint by not requiring additional space for cable management. It allows the table to be mounted in any orientation without a need to re-engineer the cable management. The innovative design is field serviceable and can be maintained without a trip back to the factory. It is designed for and fully tested to last over 20 million cycles. And best of all, it is already done for you!



Internal Cable Management

Cable Options

From the end of the LX80L, high flex extension cables are included for connection to the servo drive and control. They are offered in 1m and 3m lengths and are connectorized at both ends for easy installation or removal. The servo drive end is connectorized for Parker’s ViX series servo drives.

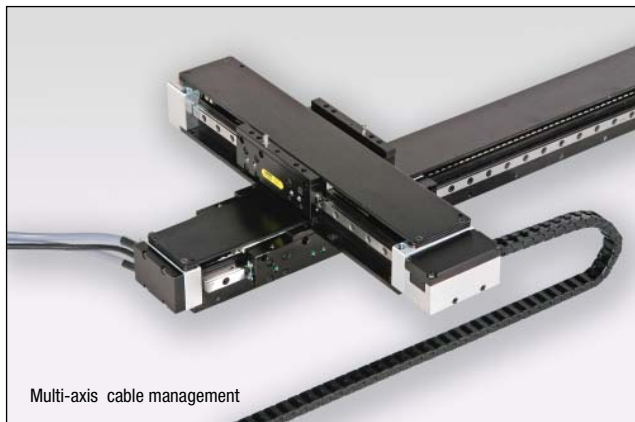
The extension cables egress from the table at a right angle to minimize the overall length of the system. In the standard configuration the cable egress to the left, however, the design is flexible and allows them to egress to the right if desired.



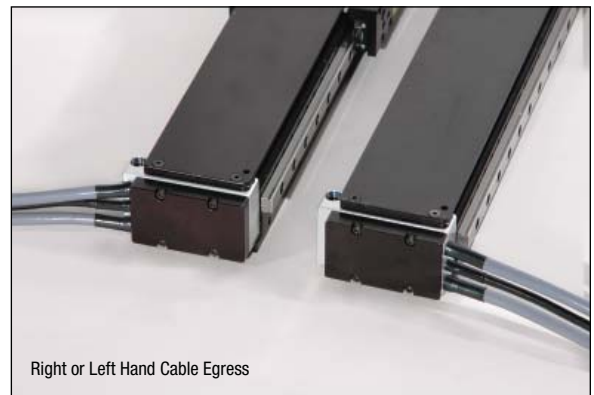
Convenient connectors for ViX drives

Multi-Axis Cable Management

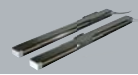
When building multi-axis systems, flexible cable management for the moving axes should be considered. Parker offers pre-engineered cable management for MX80s and LX80s used as the Y-axis. Contact Parker when putting multi-axis systems together to take advantage of these pre-engineered solutions.



Multi-axis cable management



Right or Left Hand Cable Egress



Features

Single or double row bearings - Precision linear bearings support the carriage, motor, and payload. Sized to provide virtually unlimited life, the bearings provide stable and accurate linear motion while maintaining high rigidity even under combined or fluctuating loads. Unique in the



LX80L's design are single and double linear bearing rail options. The double rail design consists of two linear rails spaced apart with a total of four bearing trucks. This version offers the best load capacity, straightness/flatness, and stability. For applications requiring

minimal load capacity and precision, a single rail version is offered with a single linear rail and two bearing trucks. This version reduces cost and further reduces the width to 63mm. The single rail version is also useful when building gantry systems where stability is achieved through use of a second axis or idler rail.

Tooling Features - Standard dowel pin locating holes facilitate



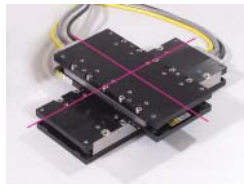
repeatable mounting of a table and payloads. Two dowel holes in the LX80L base enable simple, repeatable mounting of the table into a machine. Similarly, two dowel holes in the carriage enable simple, repeatable mounting of a fixture or payload onto the LX80L.

Mounting Variations - All versions of the LX80 can be mounted flat to



a surface using 4mm cap screws. The single rail version offers an additional mounting option where the table can be edge mounted. This allows further reduction of axis width to 45mm for applications where space is very limited.

Orthogonality - In any multi-axis positioning system, the perpendicular alignment of the axes must be clearly specified. "Degree of orthogonality" defines the perpendicular alignment of axis one to another. The LX80L is offered with two choices for orthogonality. As standard, (S3 or S4 designators) perpendicularity is held to within 60 arc seconds. For more exacting applications the LX80L can be optioned for 15 arc seconds orthogonality (S5 or S6 designators).



Cleanroom Option - LX80 tables can be prepared for cleanroom compatibility. Preparation involves material changes, element modification and cleanroom compatible lubricants. The LX80L with the R2 option is class 100 cleanroom compatible. When applying an XY or XYZ combination in a cleanroom environment, moving wires need to be considered - please consult a Parker application engineer.



Home and Limit Sensors - Digital Hall effect home and limit sensors



are completely housed within the body of the motor driven table. An innovative design adds functionality without sacrificing geometry. Sensor triggers can be easily adjusted over the travel. The output format is an open collector type capable of sinking up to 50ma.

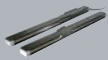
E - Encoder Options - A non-contact linear optical encoder provides a quadrature output and offers resolution ranging from 0.1 micron to 5 micron. On the LX80L, the encoder is internal to the table body. There is no increase to the footprint of the unit and no additional external cabling is required.

Z-axis Bracket- Lightweight aluminum Z-brackets are available for easy construction of vertical axis combinations. These include brackets for mounting both the MX80L and MX80S tables as verticals.



Idler Rail- For gantry or cartesian configurations, an idler rail is available to provide greater system stability. Contact a Parker application engineer for detail on adding this to your system.





Order Example:

LX80L T04 M P D D13 CM05 Z3 E3 R1 A25 X1 S1

Model

LX80L

Travel

8 pole 16 pole (motor)

150mm..... 80mm.....

T02

250mm.....180mm.....

T04

350mm.....280mm.....

T06

450 mm.....380mm.....

T08

550 mm.....480mm

T10

750 mm.....680mm

T14

Mounting...(metric).....

M

Grade.....(precision)....

P

Bearings

Double Rail

D

Single Rail

S

Drive Type

None - 8 pole carriage

D3

None - 16 pole carriage

D7

8 pole linear motor*

D13

16 pole linear motor*

D17

* includes home or limit sensors

Cable Options

No Cables (free travel)

CM03

1.0 meter high-flex cables w/ ViX connector

CM04

3.0 meter high-flex cables w/ ViX connector

CM05

X-Y Orthogonality

S1 None (no X-Y configuration)

S2 X axis unit (cables @12 o'clock)

S3 60 arc sec. - Y-axis (3 o'clock)

S4 60 arc sec. - Y-axis (9 o'clock)

S5 15 arc sec. - Y-axis (3 o'clock)

S6 5 arc sec. - Y-axis (9 o'clock)

Other Options

X1 None

Digital Drive Options

A1 No drive

A20 ViX250-AH force mode

A21 ViX250-AH velocity mode

A22 ViX250-AH step/direction mode

A25 ViX 250-IH drive/controller

Environmental Options

R1 Standard finish

R2 Cleanroom prep.

Digital Linear Encoder

E1 No encoder (free travel only)

E2 1.0 micron resolution

E4 0.1 micron resolution

E5 5.0 micron resolution

E3 0.5 micron resolution

Z-Channel Location

Z1 No Z-Channel (free travel only)

Z2 Positive end position

Motion Control Technologies from Parker

Parker provides “perfect fit” electromechanical solutions for high-precision positioning and high-speed automation. These systems are offered at selectable levels of integration ranging from motor components... to basic single axis mechanical tables... to complete electromechanical systems and robots including motors, drives, controls, and machine interface.



ACR Motion Controller

- ETHERNET Powerlink high speed digital communications
- Interpolation of up to 8 axes of servo or stepper control
- Advanced multitasking
- 10/100 Base T Ethernet and USB communications
- Absolute Encoder support via SSI

- Linear motor “gantry lock” feature to provide accurate skew control for gantry roots.

EPX InteractX Powerstations

- InteractX Windows HMI with unlimited tags and 60+ drivers
- Hard drive or CompactFlash storage
- Ethernet, USB, RS232/422/485 communications
- Breakthrough graphic technology
- Panel tool library for easy screen development (no scripting)



Aries servo amplifiers



- ETHERNET Powerlink high speed digital communications
- Fully digital, sinusoidally commutated brushless servo drive
- 7 power levels available up to 16 ARMS continuous current, or 3000 W
- Plug in and Spin - no set up required with Parker smart encoder
- Supports incremental, absolute and resolver feedback

Engineered Precision Motion Systems

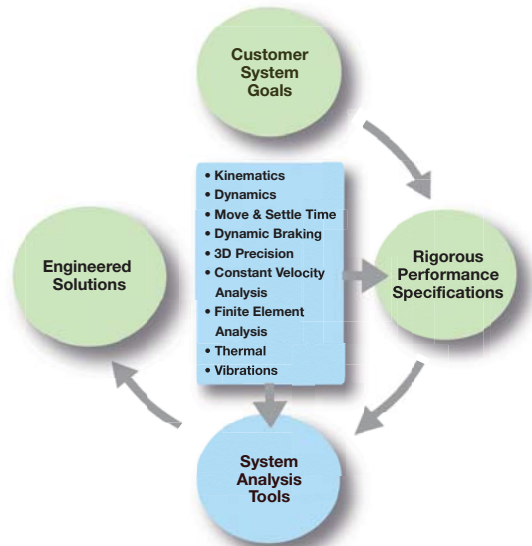
OEMs and manufacturers look to Parker because they know our extensive motion system design experience, systematic project management process, and global infrastructure ensure their needs are met.

Through years of motion system design and manufacturing, we have developed a collaborative development cycle and systematic six-step project management process that leads the motion industry.

Since our technology enables our customer’s technology, we build strategic partnerships and strictly maintain confidentiality with our customers.

Parker’s Engineered Solutions incorporate air-bearing, linear motor, and pneumatic technology with composite or conventional materials to create a total solution.

Collaborative Development Cycle



Custom Engineered systems for demanding industries

- Flat Panel
- Semiconductor
- Life Sciences and Biomedical
- Aerospace
- And other industries with rigorous performance specifications