

Catalog 8092/USA
Square Rail Linear Tables

High Precision

The
"400XR"
Product
Family



- ▶ Pre-engineered package
- ▶ Performance matched components
- ▶ Protection from environment
- ▶ Certified precision

1. High Strength Aluminum Body

Extruded aluminum housing is precision machined to provide outstanding straightness and flatness.

2. Square Rail Linear Bearing

These tables are equipped with square rail carriage support bearings which provide high load carrying capabilities, smooth precise motion and dependable performance.

3. High Efficiency Ballscrew Drive

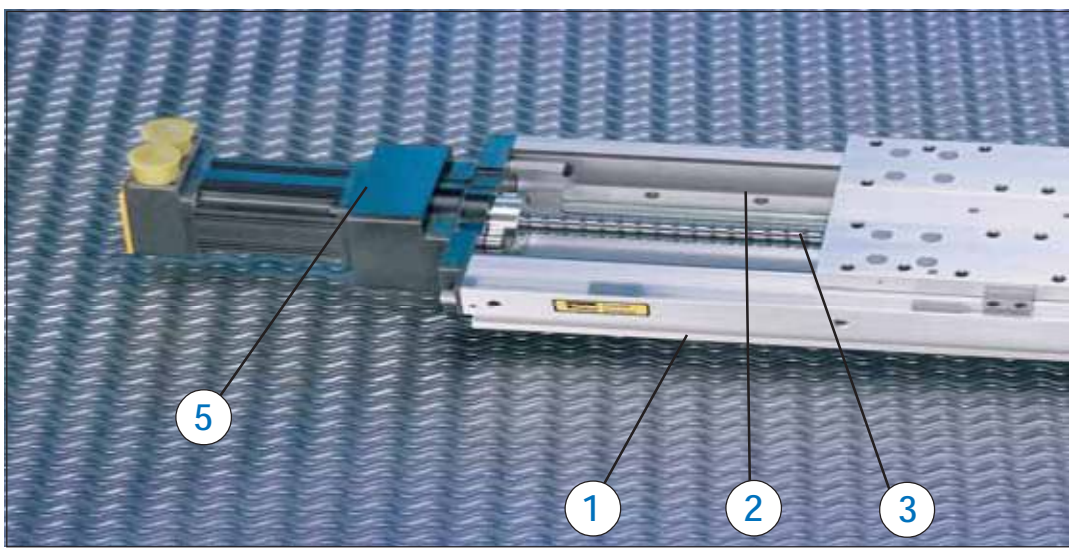
Precision ground, or rolled ballscrew drive (5, 10, 20, 25, 32 mm lead) offers high throughput, efficiency, accuracy and repeatability.

4. Limit/Home Sensors

Proximity sensors establish "end of travel" and "home" location and are easily adjustable over entire length to restrict the travel envelope.

Cleanroom Preparation

Class 10 cleanroom preparation is a standard option for the 400XR series. For detailed technical information on cleanroom preparation, contact Parker's Application Engineering Department.



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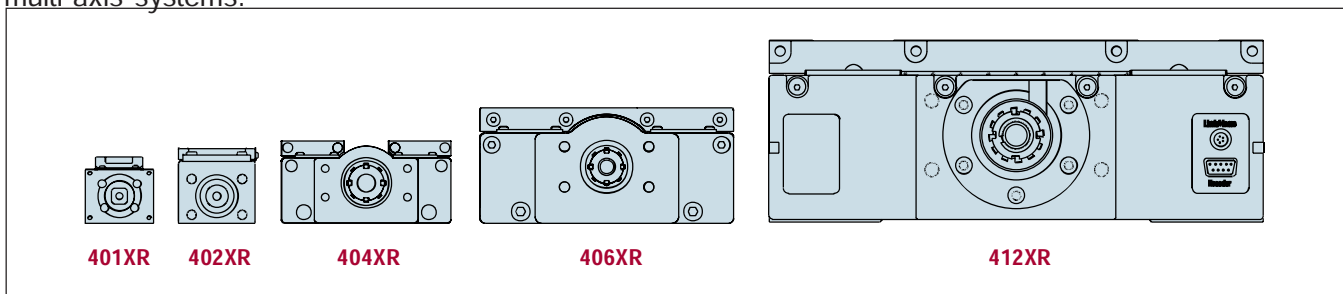
The "400XR" precision linear positioners family has achieved global recognition for consistent accuracy, reliable performance, high strength, and unmatched versatility. The XRs have excelled in industries such as life sciences, fiber optics and instrumentation, where the highest degree of precision is required. And yet, because of the rugged construction, strength, and sealed design, these units have been used extensively for industrial automation applications (packaging, automotive, etc).

The XR family offers an unrivaled array of features and options which are easily matched to fit any application, from the very basic to the highly complex. Premier performance, modular compatibility, and quick delivery have made these tables the perfect building blocks for cost-effective multi-axis systems.

Typical Enhancements

- Limit/home position sensors
- Linear encoder feedback
- Cleanroom preparation
- Multi-axis brackets & adapters
- Selectable motor mounts
- Servo motors and drives
- Programmable controls
- Cable management system

	401XR	402XR	404XR	406XR	412XR
Travel	300 mm	600 mm	600 mm	2000 mm	2000 mm
Load	50 kg	100 kg	170 kg	630 kg	1470 kg
Accel.	20 m/sec ²	20 m/sec ²	20 m/sec ²	20 m/sec ²	20 m/sec ²



5. Motor Mounts

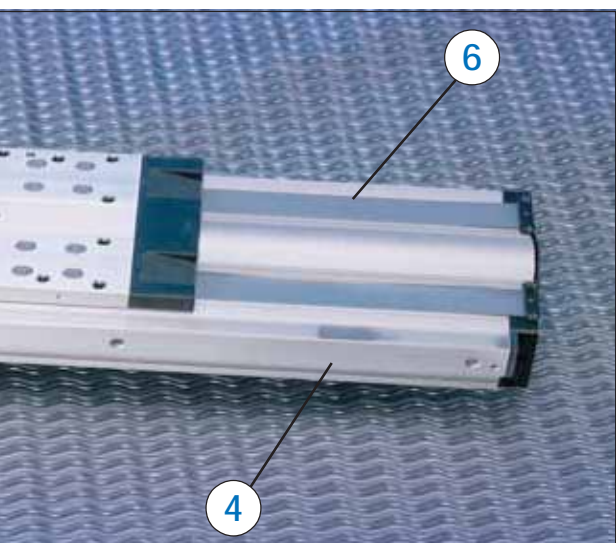
A large selection of servo and stepper motor sizes; plus selectable mounting configurations (in-line, parallel) permit a wide variety of motor mounting possibilities.

6. IP30 Rated Strip Seals

An anodized aluminum cover combined with stainless steel strip seals provide IP30 protection to interior components as well as enhance the overall appearance.

Shaft Brake

The electromagnetic shaft brake option couples directly to the drive screw and is employed primarily on vertical axes to halt carriage motion during a power loss. *Not shown*



Encoders

The linear encoder option offers direct positional feedback of the carriage location. The rotary shaft encoder couples directly to the drive shaft to nullify any incurred mechanical error (particularly useful with the parallel motor mount). *Not shown*

Convenient Mounting Slots

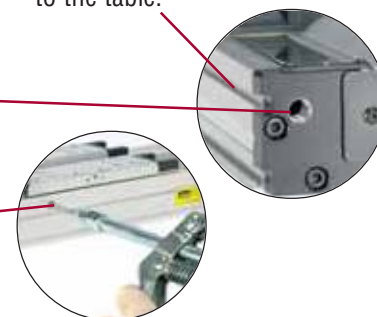
Continuous T-slots along the side of the table body provide a convenient means of mounting the table to a work surface as well as mounting accessories to the table.

Positive Pressure Port

(1/8 NPT) for pressurizing the interior to prevent particle intrusion.

Easy Lube System

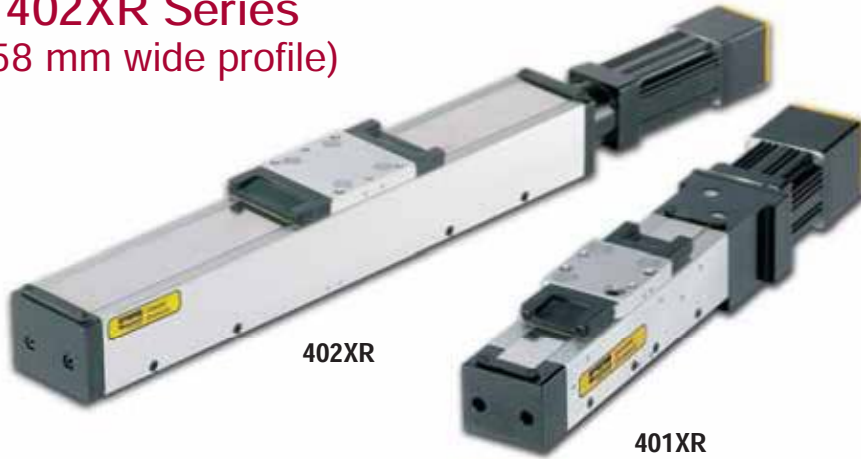
A standard option on some models, enables easy access for ballscrew and bearing lubrication.



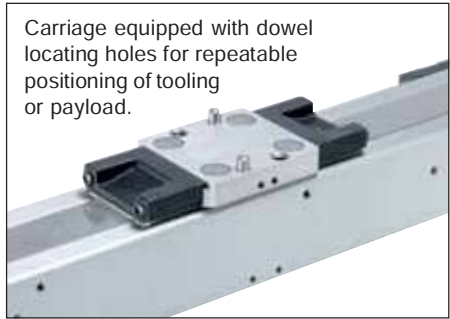
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401XR & 402XR Series
 (41 mm & 58 mm wide profile)



The 401XR and 402XR Series positioners enhance the 400XR family of precision linear positioners, addressing applications which involve precise positioning of smaller payloads within a very small space envelope. These ball-screw driven positioners were developed to address the needs of industries such as photonics, life sciences, semiconductor, and instrumentation, where technology advancements dictate miniaturization of work envelopes.



Common Characteristics	Precision*		Standard	
	401XR	402XR	401XR	402XR
Performance				
Bidirectional Repeatability (µm)				
2 mm lead	±1.3	NA	±5	NA
5 or 10 mm lead	±1.3	±1.3	±12	±12
Duty Cycle	100%	100%	100%	100%
Max Acceleration –m/sec ² (in/sec ²)	20 (773)	20 (773)	20 (773)	20 (773)
Rated Capacity⁽¹⁾				
Normal load – kgf (lbs)	50 (110)	100 (220)	50 (110)	100 (220)
Axial load – kgf (lbs)				
2 mm lead	5.5 (12.1)	NA	5.5 (12.1)	NA
5 or 10 mm lead	15.5 (34.2)	38 (84)	15.5 (34.2)	38 (84)
Motor Sizing				
Drive Screw Efficiency	80%	80%	80%	80%
Max Break-Away Torque – Nm (in-oz)	0.03 (4.2)	0.086 (12.0)	0.03 (4.2)	0.086 (12.0)
Max Running Torque ⁽²⁾ – Nm (in-oz)	0.028 (4.0)	0.08 (11.3)	0.028 (4.0)	0.08 (11.3)
Linear Bearing – Coefficient of Friction	0.01	0.01	0.01	0.01
Ballscrew Diameter – mm				
2 mm lead	6	NA	6	NA
5 or 10 mm lead	8	12	8	12
Carriage Weight – kgf (lbs)	0.045 (0.1)	0.11 (0.25)	0.045 (0.1)	0.11 (0.25)

*Requires Linear Encoder Option **E 3** or **E 4**

(1) Refer to life/load charts found on page B13. (2)Ratings established @ 2 rps

Travel Dependent Characteristics

Travel (mm)	Positional Accuracy (µm)				Straightness & Flatness Accuracy (µm)				Input Inertia 10 ⁻³ kg-cm ²				Max Screw Speed (Revs Per Second)		Unit Weight (kg)	
	401		402		401		402		401		402		401	402	401	402
	P*	S	P*	S	401	402	401	402	2 mm	10 mm	5 mm	10 mm				
50	10	20	-	-	20	-	-	-	0.6	-	-	-	100	-	1.0	-
100	10	20	10	20	20	20	-	-	0.9	-	12.0	-	100	90	1.2	2.3
150	12	20	12	20	20	20	-	-	1.1	-	15.0	-	100	90	1.3	2.6
200	16	30	16	30	25	25	-	-	-	4.7	20.0	-	100	90	1.5	2.8
300	18	40	18	40	25	25	-	-	-	5.2	-	25.0	100	90	1.7	3.2
400	-	-	21	40	-	30	-	-	-	-	-	29.0	-	95	-	3.8
600	-	-	25	50	-	30	-	-	-	-	-	39.0	-	50	-	4.8

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

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404XR Series
 (95 mm wide profile)



Parallel Motor Mount-
 (with limit/home sensor pack option)

Screw Driven Tables

The 404XR is a sleek compact positioner (47.3 x 95 mm profile) capable of carrying 170 kg loads up to a distance of 600 mm. Its quick and accurate positioning capability can be attributed to a high strength extruded housing, square rail ball bearing system, and precision ground ballscrew drive. With its low profile design the 404XR is ideal for height restricted applications, and its lightweight construction makes it well suited as secondary axes on multi-axis systems. These units offer a wide array of easily adapted options and accessories which permit easy configuration to specific requirements.

Common Characteristics	Precision	Standard
Performance		
Bidirectional Repeatability ⁽⁵⁾ (µm)	±1.3	±3.0
Duty Cycle	Ballscrew 100% Leadscrew 75%	100% 75%
Max Acceleration – m/sec ² (in/sec ²)	20 (773)	20 (773)
Rated Capacity⁽¹⁾		
Normal load – kgf (lbs)	170 (375)	170 (375)
Axial load – kgf (lbs) ⁽²⁾	Ballscrew 90 (198) Leadscrew n/a	90 (198) 25(55)
Motor Sizing		
Drive Screw Efficiency	Ballscrew 90% Leadscrew 30%	90% 30%
Max Break-Away Torque – Nm (in-oz)	0.13 (18)	0.18 (26)
Max Running Torque ⁽³⁾ – Nm (in-oz)	0.11 (16)	0.17 (24)
Linear Bearing – Coefficient of Friction	0.01	0.01
Ballscrew Diameter (mm)	16	16
Carriage Weight – kg (lbs)	0.70 (1.55)	0.70 (1.55)

(1) Refer to life/load charts found on page B13.
 (2) Axial load for parallel mounts is limited by a maximum input torque of 2.5Nm
 (3) Ratings established @ 2 rps

Travel Dependent Characteristics

Travel (mm)	Positional ⁽⁴⁾⁽⁵⁾ Accuracy (µm)		Straightness & Flatness Accuracy (µm) Prec./Std.	Input Inertia 10 ⁻⁵ kg-m ²			Max Screw Speed ⁽⁶⁾ (Revs Per Second) Prec./Std.	Total Table Weight (kg) Prec./Std.
	Prec.	Std.		5 mm	10 mm	20 mm		
50	8	12	6	1.68	1.81	2.34	60	2.8
100	8	12	6	1.93	2.07	2.60	60	3.0
150	10	14	9	2.19	2.32	2.85	60	3.3
200	12	20	10	2.44	2.57	3.11	60	3.6
250	12	22	12	2.69	2.83	3.36	60	3.9
300	14	24	13	2.95	3.08	3.61	60	4.2
350	14	26	15	3.20	3.33	3.87	60	4.5
400	16	26	16	3.46	3.59	4.12	60	4.8
450	19	28	18	3.71	3.84	4.37	60	5.1
500	21	34	19	3.96	4.10	4.63	60	5.4
550	23	36	21	4.22	4.35	4.88	60	5.7
600	25	40	22	4.47	4.60	5.14	54	6.0

(4) Positional accuracy applies to in-line motor configurations only. Contact factory for parallel motor specifications.
 (5) Consult factory for specs with linear encoder.
 (6) Consult factory for higher screw speeds.

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406XR Series
(150 mm wide profile)



Parallel Motor Mount-
(with limit/home sensor pack option)

The 406XR can position high loads (up to 630 kgf) over distances up to two meters. Because of its size and strength (270 Nm, 200 lb-ft. moment load capacity) this durable table is ideal as the base unit in a multi-axis system. From high resolution to high throughput, selectable ballscrew leads (5, 10, 20, 25 mm) make the desired resolution/velocity ratio easy to achieve, and stainless steel seal strips alleviate environmental concerns.

Common Characteristics	Precision	Standard
Performance		
Bidirectional Repeatability ⁽⁵⁾ (µm)	±1.3	±3.0
Duty Cycle	100%	100%
Max Acceleration – m/sec ² (in/sec ²)	20 (773)	20 (773)
Rated Capacity⁽¹⁾		
Normal load – kgf (lbs)	630 (1390)	630 (1390)
Axial load – kgf (lbs) ⁽²⁾⁽³⁾		
0 to 600 mm Travel	90 (198)	90 (198)
700 to 2000 mm Travel	n/a	200 (440)
Motor Sizing		
Drive Screw Efficiency	90%	90%
Max Break-Away Torque – Nm (in-oz)		
0 to 600 mm Travel	0.13 (18)	0.18 (26)
700 to 2000 mm Travel	na	0.39 (55)
Max Running Torque ⁽⁴⁾ – Nm (in-oz)		
0 to 600 mm Travel	0.11 (16)	0.17 (24)
700 to 2000 mm Travel	na	0.34 (48)
Linear Bearing – Coefficient of Friction	0.01	0.01
Ballscrew Diameter	refer to chart page B23	
Carriage Weight kg (lbs)	2.7 (5.94)	2.7 (5.94)

- (1) Refer to life/load charts found on page B13.
(2) Axial load for parallel mounts is limited by a maximum input torque of 2.5Nm for 5, 10, & 20 mm lead drives, and 5.1Nm for 25 mm lead drives.
(3) Axial load for parallel mount units with a 25 mm lead = 104kgf (230lb)
(4) Ratings established @ 2 rps

Travel Dependent Characteristics

Travel (mm)	Positional ⁽⁴⁾⁽⁵⁾ Accuracy (µm)		Straightness & Flatness Accuracy (µm)		Input Inertia 10 ⁻⁵ kg-m ²				Max Screw Speed ⁽⁶⁾ (Revs Per Second) Prec./Std.	Total Table Weight (kg) Prec./Std.
	Prec.	Std.	Prec./Std.	5 mm	10 mm	20 mm	25 mm			
100	8	12	6	3.34	3.85	5.90	–	60	8.7	
200	12	20	10	3.92	4.43	6.48	–	60	10.0	
300	14	24	13	4.50	5.01	7.06	–	60	11.3	
400	16	26	16	5.08	5.59	7.64	–	60	12.6	
500	21	34	19	5.65	6.17	8.22	–	55	13.9	
600	25	40	22	6.23	6.75	8.80	–	44	15.2	
700	–	92	25	36.51	37.02	–	40.61	47	19.2	
800	–	94	29	39.96	40.47	–	44.07	47	20.7	
900	–	103	32	43.41	43.93	–	47.52	47	22.2	
1000	–	105	35	46.87	47.38	–	50.97	47	23.7	
1250	–	118	42	55.50	56.01	–	59.61	35	27.6	
1500	–	134	50	64.14	64.65	–	68.24	26	31.4	
1750	–	154	57	72.77	73.28	–	76.88	20	35.2	
2000	–	159	65	81.40	81.92	–	85.51	16	39.1	

(4) Positional accuracy applies to in-line motor configurations only. Contact factory for parallel motor specifications.
(5) Consult factory for specs with linear encoder.
(6) Consult factory for higher screw speeds.

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412XR Series
(285 mm wide profile)



The 412XR is a rugged heavy duty linear table (285 mm x 105 mm profile) that enables massive loads (up to 1470 kgf) to be precisely positioned over distances up to two meters. Single point "easy lube" port is standard on carriage assembly for simple servicing and a convenient adapter plate (#100-6784-01) is available for easy X-Y configuration.

An unrivaled array of options combined with mounting compatibility with the smaller 400XR tables makes the 412XR ideal as the base unit for multi-axis positioning of heavier payloads.

General Table Specifications

Common Characteristics

Screw Lead	5, 10, 25 mm	32 mm
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Performance

Bidirectional Repeatability (µm)	±5	±5
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Duty Cycle	100%	100%
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Max Acceleration – m/sec ² (in/sec ²)	20 (773)	20 (773)
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Rated Capacity⁽¹⁾

Normal load – kgf (lbs)	1470 (3241)	1470 (3241)
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Axial load – kgf (lbs)	200 (441)	460 (1014)
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Motor Sizing

Drive Screw Efficiency	90%	80%
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Max Break-Away Torque – Nm (in-oz)	0.61 (86)	0.76 (108)
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Max Running Torque ⁽²⁾ – Nm (in-oz)	0.55 (78)	0.69 (98)
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Linear Bearing – Coefficient of Friction	0.01	0.01
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Ball screw Diameter	25	32
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Carriage Weight kg (lbs)	12 (27)	13 (28)
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(1) Refer to life/load charts found on page B13.

(2) Ratings established @ 2 rps

Travel Dependent Characteristics

Travel (mm)	Positional ⁽⁴⁾⁽⁵⁾ Accuracy (µm)	Straightness & Flatness Accuracy (µm)	Input Inertia 10 ⁻⁵ kg-m ²				Max Screw Speed ⁽⁶⁾ (Revs Per Second)		Total Table Weight (kg)	
			5 mm	10 mm	25 mm	32 mm	5,10,25 mm	32 mm	5,10,25 mm	32 mm
150	64	9	27.20	29.45	46.76	98.20	47	42	39.6	41.5
250	66	12	30.21	32.46	49.78	106.28	47	42	42.9	45.0
350	71	15	33.23	35.48	52.79	114.37	47	42	46.2	48.5
650	91	24	42.27	44.52	61.83	138.63	47	42	56.1	59.0
800	94	29	46.79	49.04	66.35	150.76	47	42	61.0	64.2
1000	105	35	52.81	55.06	72.37	166.94	45	42	67.6	71.2
1250	118	42	58.84	61.09	78.40	183.11	34	41	74.2	78.2
1500	134	50	67.87	70.12	87.44	207.38	24	31	84.1	88.7
1750	154	57	75.41	77.66	94.97	227.59	18	24	92.4	97.5
2000	159	65	82.94	85.19	102.50	247.81	15	19	100.6	106.2

(4) Positional accuracy applies to in-line motor configurations only. Contact factory for parallel motor specifications.

(5) Consult factory for specs with linear encoder.

(6) Consult factory for higher screw speeds.

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400XR Series Engineering Reference

The following performance information is provided as a supplement to the product specifications pages. The following graphs are used to establish the table life relative to the applied loads. The useful life of a linear table at full catalog specifications is dependent on the forces acting upon it. These forces include both static components resulting from payload weight, and dynamic components due to acceleration/deceleration of the load. In multi-axes applications, the primary positioner at the bottom of the stack usually establishes the load limits for the combined axes. When determining life/load, it is critical to include the weight of all positioning elements that contribute to the load supported by the primary axis.

Table Life/Load Chart
Compression (normal load)

These graphs provide a "rough cut" evaluation of the support bearing life/load characteristics. The curves show the life/load relationship when the applied load is centered on the carriage, normal (perpendicular) to the carriage mounting surface. For final evaluation of life vs load, including off center, tension, and side loads refer to the charts and formulas found on our web site www.parkermotion.com.

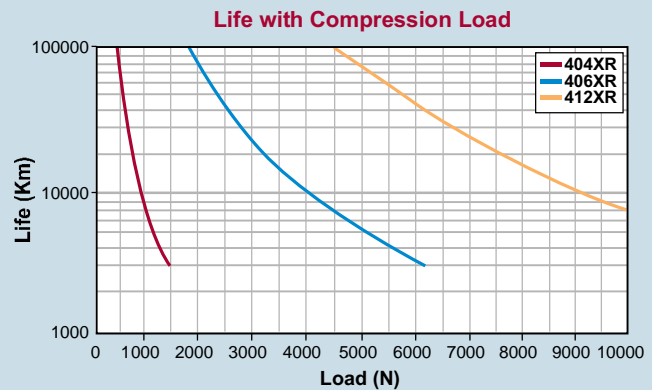
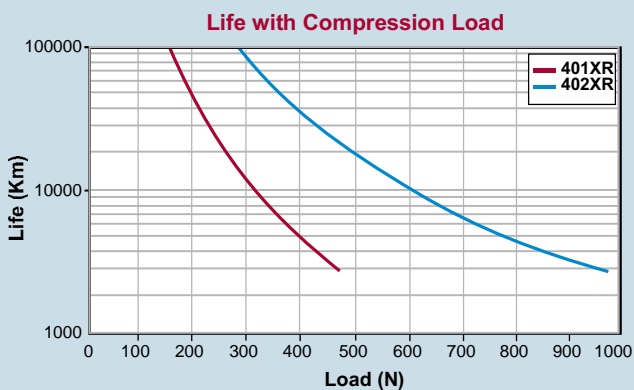
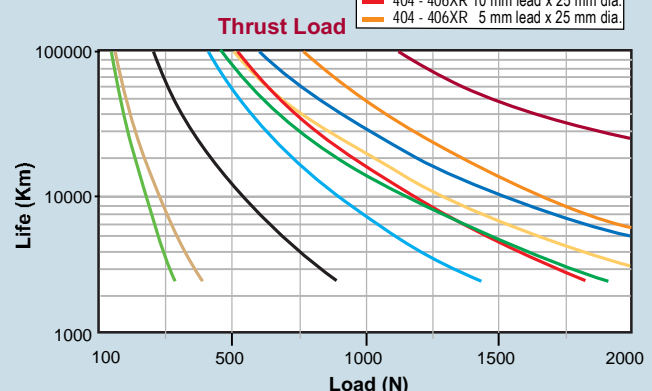
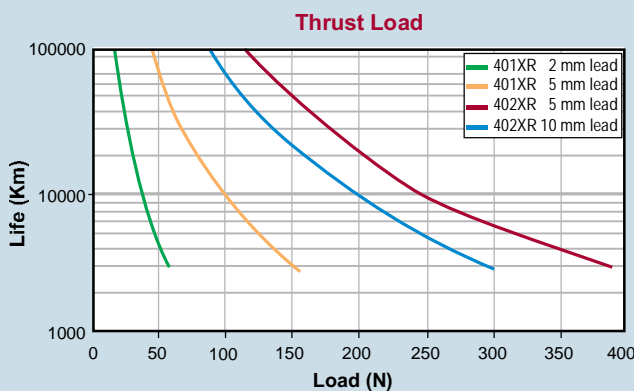


Table Life/Load Chart
Thrust (axial) load

These graphs illustrate table ballscrew life relative to the axial load.

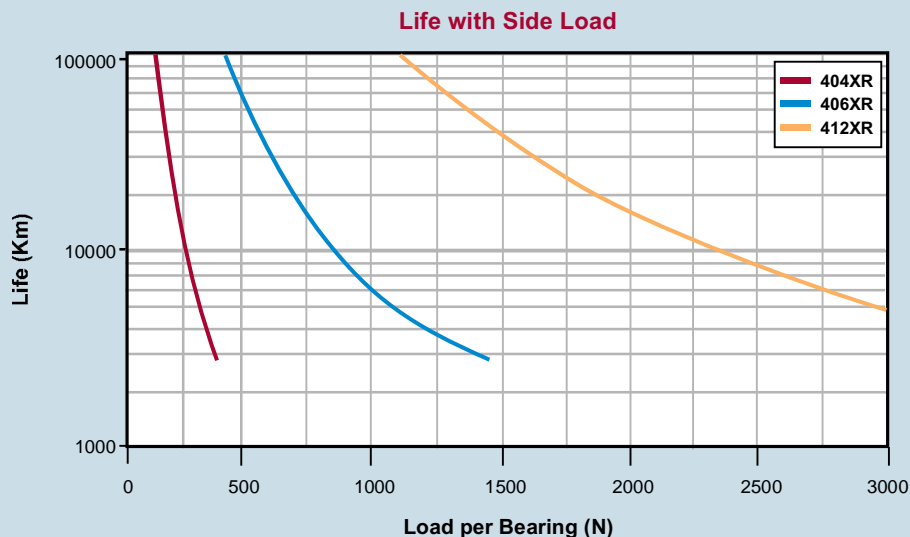
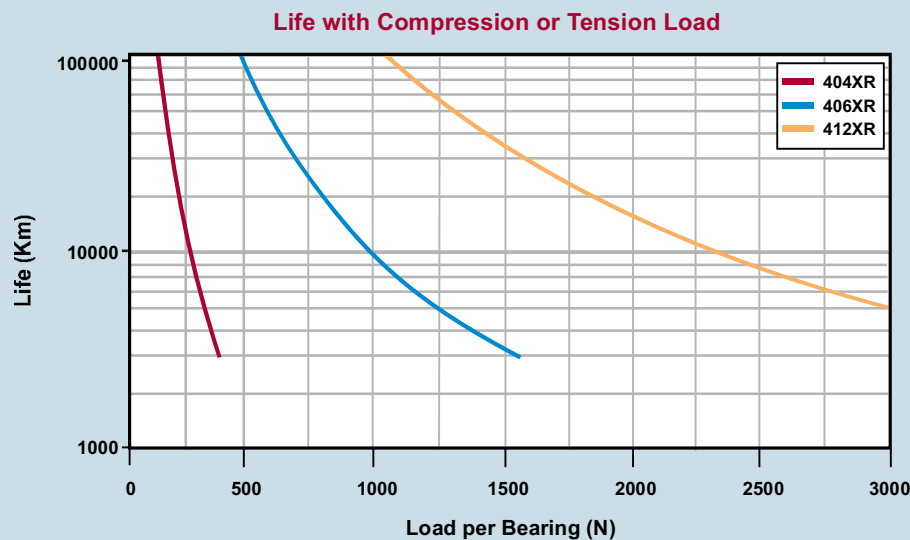


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400XR Series Engineering Reference

Bearing Life/Load Charts
Compression (normal load)



These charts are to be used in conjunction with the corresponding formulas found in the product manuals at www.parkermotion.com to establish the life/load for each bearing (4 per table).

Several dimensions, which are specific to each linear positioning table model, and the load geometry are required for these computations. These dimensions are supplied in the catalog information for each positioner. The dimensions are referenced as follows:

- d1 – bearing block center-to-center longitudinal spacing
- d2 – bearing rail center-to-center lateral spacing
- da – Rail center-to-carriage mounting surface

	d1	d2	da
404XR	80	57	28
406XR	114	90.3	42.5
412XR	205	192	43

Refer to Parker's website www.parkermotion.com for moment loading and other engineering data.

Screw Driven Tables

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400XR Series Options and Accessories (mm)



401XR Limits and Home Sensor



401XR with Linear Encoder plus Sensor Pack



404XR with Lube Option



404XR with Brake Option



406XR with Limit and Home Sensor Pack



404XR with Air Purge - Standard on all 404XR, 406XR and 412XR units

Home **H** or Limit Sensor **L**

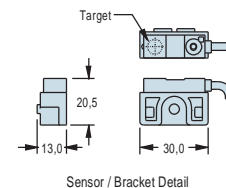
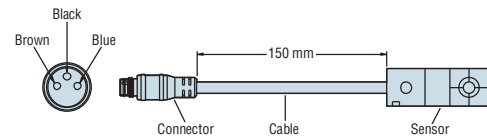
End of Travel and Home Sensors for the 400XR series are available in a variety of styles. The sensors can be ordered as part of the table or as separate components with the associated mounting hardware or in an enclosed sensor pack. A 5 meter "hi-flex" extension cable (Part No. 003-2918-01) is available for use with the 401XR thru 406XR models having the locking connector option.

Input Power 5-30VDC, 20mA
 Output 100mA max
 Wire Color (+) Supply: Brown
 (-) Supply: Blue
 NO Output: Black
 NC Output: White



- NPN (Sinking) or PNP (Sourcing)
- Normally Closed (N.C.) or Normally Open (N.O.)
- Flying Leads or Locking Connector

Order Code	Part No.** (Includes Mounting Bracket)	Switch Type	Logic	Cable Length	Connector Option
H2 or L2	006-1639-01	N.C.	Sinking	2,0 m	Flying Leads
H3 or L3	006-1639-02	N.O.	Sinking	2,0 m	Flying Leads
H4 or L4	006-1639-03	N.C.	Sourcing	2,0 m	Flying Leads
H5 or L5	006-1639-04	N.O.	Sourcing	2,0 m	Flying Leads
H6 or L6	006-1639-09	N.C.	Sinking	150 mm	Locking Connector
H7 or L7	006-1639-08	N.O.	Sinking	150 mm	Locking Connector
H8 or L8	006-1639-11	N.C.	Sourcing	150 mm	Locking Connector
H9 or L9	006-1639-10	N.O.	Sourcing	150 mm	Locking Connector

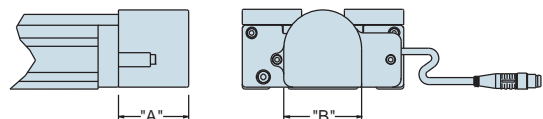


* Applies to 401XR thru 406XR models. 412XR models have limits and homes internally mounted with a connector termination.
 **Sensor triggers (targets) ordered separately.

Brake Assembly B2

Electromagnetic brake assembly used to prevent "backdriving" in vertical applications.

Table Series	Part No.	Input Power	Holding Torque	A Dim.	B Dim.
401/402XR	NA	NA	NA	NA	NA
404XR	006-1627-01	24VDC, 0.46A	2.0 N-m	41,5	46,0
406XR	006-1656-01	24VDC, 0.5A	4.5 N-m	49,9	57,5
412XR	002-1916-01	24VDC, 0.75A	9.0 N-m	54,0	72,0



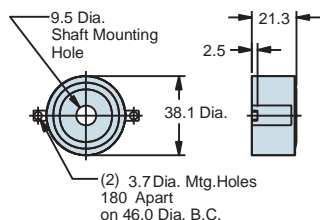
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400XR Series Options and Accessories* (mm)

Rotary Encoder E5

Modular rotary encoder couples directly to the drive screw for position feedback.



Input Power 5VDC, 135mA
Output A/B quadrature and reference mark, differential line drive output
Resolution 1250 lines/rev equals 5000 counts post quadrature (1µm with 5 mm lead ballscrew)

Table Series	Part No.
401/402XR	NA
404XR	006-1629-01
406XR	006-1657-01
412XR	002-1917-01

Note: Dimensions shown apply to 404XR and 406XR models. Consult factory for 412XR dimensions.

Linear Encoder (Tape Scale) E_

A linear position feedback device which mounts directly to the table carriage. (Factory installation required.)

1.0 µm resolution
0.5 µm resolution
0.1 µm resolution



Input Power: 5VDC, 150mA
Output: A/B quadrature and reference mark, differential line drive output
Resolution: 1.0, 0.5, 0.1 micron

Riser Plate

Used to raise the table base to provide clearance for motors.

Table Series	Part No.
401XR	002-2063-01
402XR	002-2064-01
404XR	002-3619-01
406XR	002-3625-01
412XR	NA

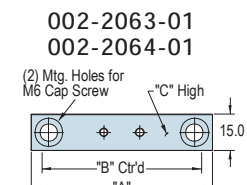
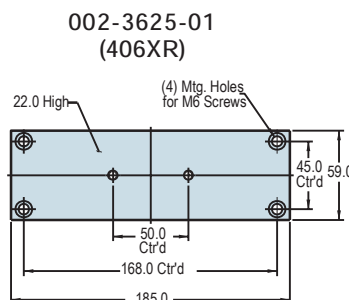
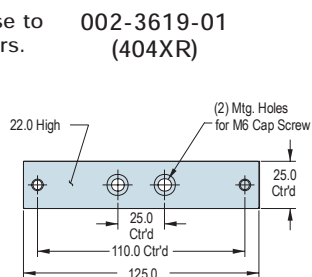


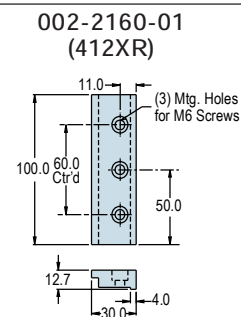
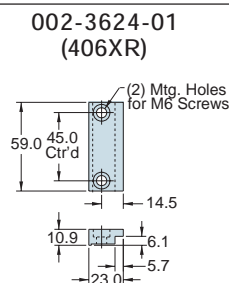
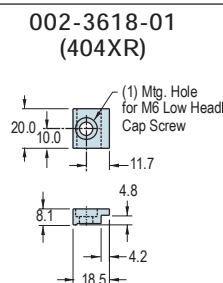
Table Series	"A"	"B"	"C"
401XR	65.0	50.4	17.0
402XR	90.0	75.4	10.0

Toe Clamp

Used for convenient outboard mounting of table to a base plate, riser plates, Z-axis bracket, or other 400XR table.

Table Series	Part No.
404XR	002-3618-01*
406XR	002-3624-01*
412XR	002-2160-01*

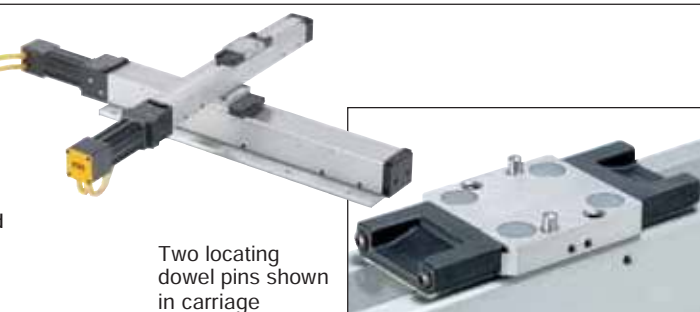
* All hardware included



Dowel Pinning P_

Standard dowel pin locating holes are offered on all 400XR units to facilitate repeatable mounting of tooling or payload. In addition, pinning options (P2 & P3)* are offered for precise orthogonal mounting of the second axis in a multi-axis system. In this case, the bottom side of the table base is match drilled and reamed to the first axis to provide exact orthogonal location. This convenient option eliminates concerns regarding contamination or damage often associated with machining for locating pins in an assembled unit.

* Not available with 401XR or 402XR.



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Multi-Axis Configurations

		Second Axis (Y or Z) Models									
		401050XR	401XR >50mm	402XR	404XR	404LXR	406XR	406LXR	412XR/LXR	Wedge	
Base Axis (X) Models	401XR	X-Y	002-2126-01	002-2065-01	-	-	-	-	-	-	
		X-Y Cartesian	002-2123-01	002-2068-01	-	-	-	-	-	-	
		X-Z	-	101-0955-01	-	-	-	-	-	-	
		X-Z Side Mount	002-2123-01	101-0955-01	-	-	-	-	-	-	
		402XR	X-Y	002-2130-01	002-2066-01	002-2066-01	-	-	-	-	
			X-Y Cartesian	002-2069-01	002-2069-01	002-2069-01	-	-	-	-	
			X-Z	-	002-2069-01	002-2069-01	-	-	-	-	
			X-Z Side Mount	002-2125-01	002-2069-01	002-2069-01	-	-	-	-	
		404XR/LXR	X-Y	100-9193-01	100-9193-01	100-9193-01	Direct Mount*	100-9584-01	-	-	100-9274-01
			X-Y	-	-	-	100-3945-01	100-3945-01	-	-	-
			Carriage to Carriage	-	-	-	-	-	-	-	-
			X-Y	002-2162-01	002-2162-01	002-2162-01	-	-	-	-	-
			Cartesian Right Hand	-	-	-	-	-	-	-	-
			X-Y	002-2162-02	002-2162-02	002-2162-02	-	-	-	-	-
			Cartesian Left Hand	-	-	-	-	-	-	-	-
			X-Z	-	-	-	002-1839-01	-	-	-	-
			X-Z Side Mount	-	-	-	002-1840-01	-	-	-	-
		406XR/LXR	X-Y	100-9194-01	100-9194-01	100-9194-01	Direct Mount	Direct Mount	Direct Mount	Direct Mount	-
			X-Y	-	-	-	100-4191-01	100-4191-01	100-4191-01	100-4191-01	-
			Carriage to Carriage	-	-	-	-	-	-	-	-
			X-Y Cartesian	-	-	-	002-2163-01	002-2163-01	-	-	-
			X-Z	-	-	-	002-1823-01	-	002-1817-01	-	-
			X-Z Side Mount	-	-	-	002-1824-01	-	002-1818-01	-	-
		412XR/LXR	X-Y	-	-	-	Direct Mount or Toe Clamp	Direct Mount or Toe Clamp	Direct Mount or Toe Clamp	Direct Mount or Toe Clamp	000-67484-01
		X-Y Cartesian	-	-	-	-	-	002-2164-01	002-2164-01	-	
	ZP200 Wedge	X-Y	-	-	-	100-9274-01	100-9274-01 or Toe Clamp	100-9274-01 or Toe Clamp	100-9274-01	-	

* An adaptor plate (100-3945-01) is required whenever the X-axis is a parallel motor mount model.

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400XR Series Multi Axis Configurations

These diagrams show the most popular variations of multi-axis configurations. Both standard and custom brackets are available.

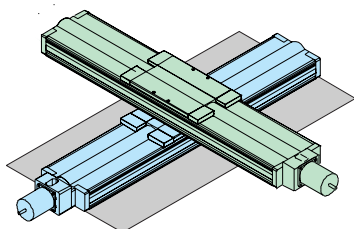


Figure 1
Two Axis (X-Y)
Horizontal Mounting

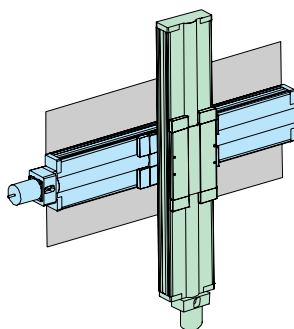


Figure 2
Two Axis (X-Y)
Vertical Mounting

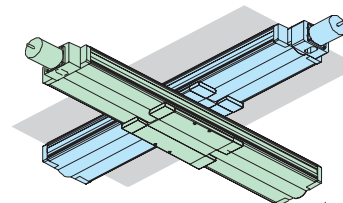


Figure 3
Two Axis (X-Y)
Inverted Mounting

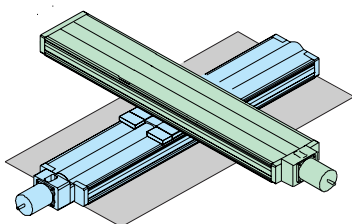


Figure 4
Two Axis-Carriage to Carriage
(Y Axis Inverted)

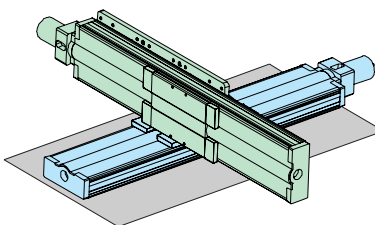


Figure 5
Two Axis Cartesian
Horizontal Mounting

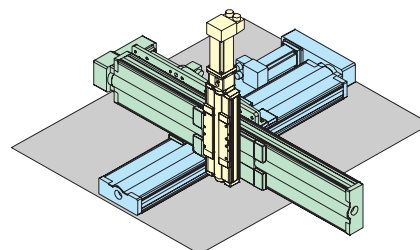


Figure 6
Three Axis Cartesian
Horizontal Mounting

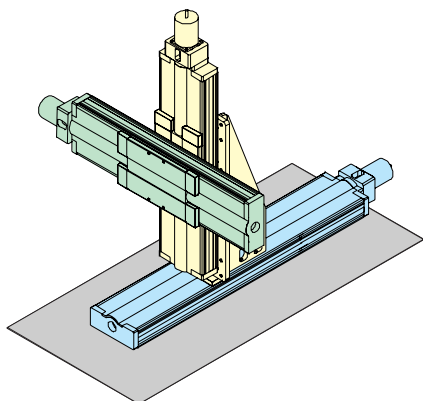


Figure 7
Three Axis (X-Z-Y)
Horizontal Mounting

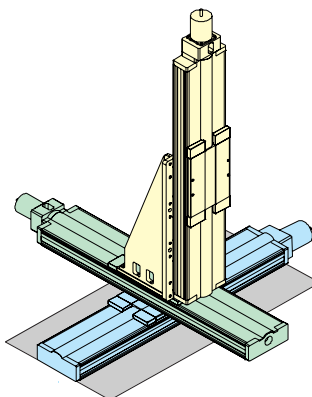


Figure 8
Three Axis (X-Y-Z)
Horizontal Mounting

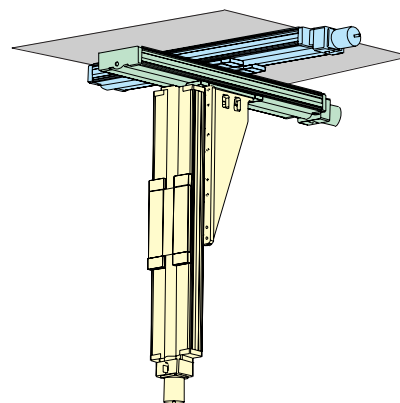


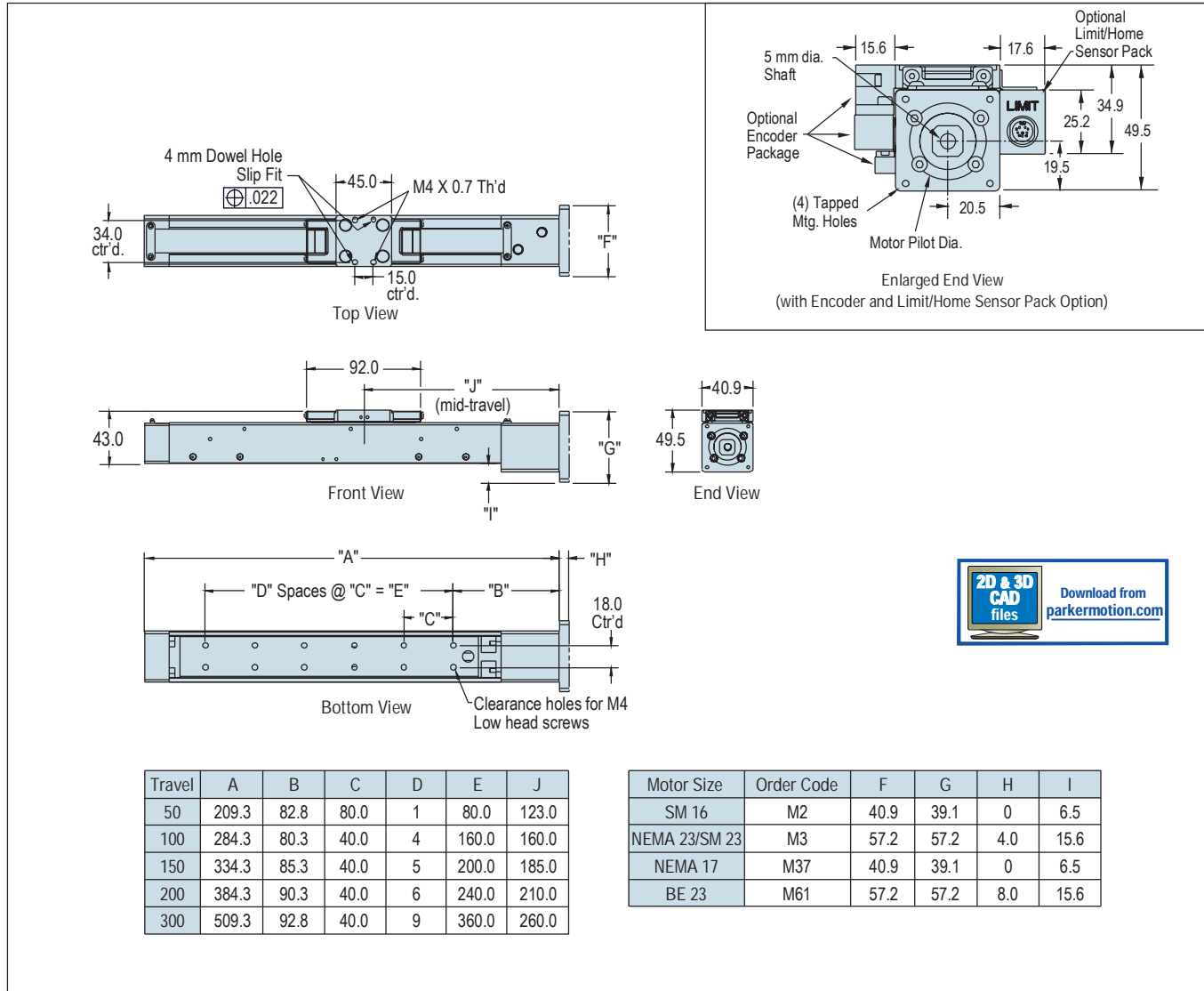
Figure 9
Three Axis (X-Y-Z)
Inverted Mounting

Screw Driven Tables

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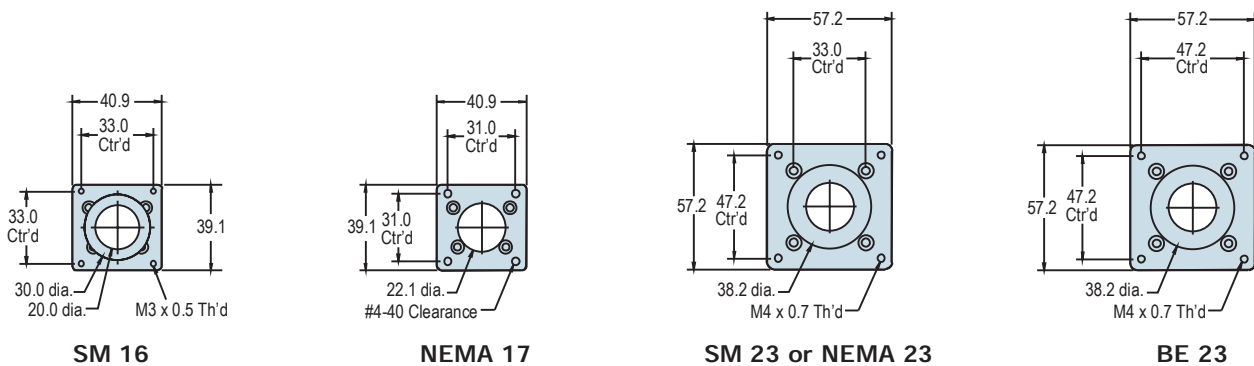
High Precision

401XR Series - Dimensions (mm)



In-Line Motor Adapters

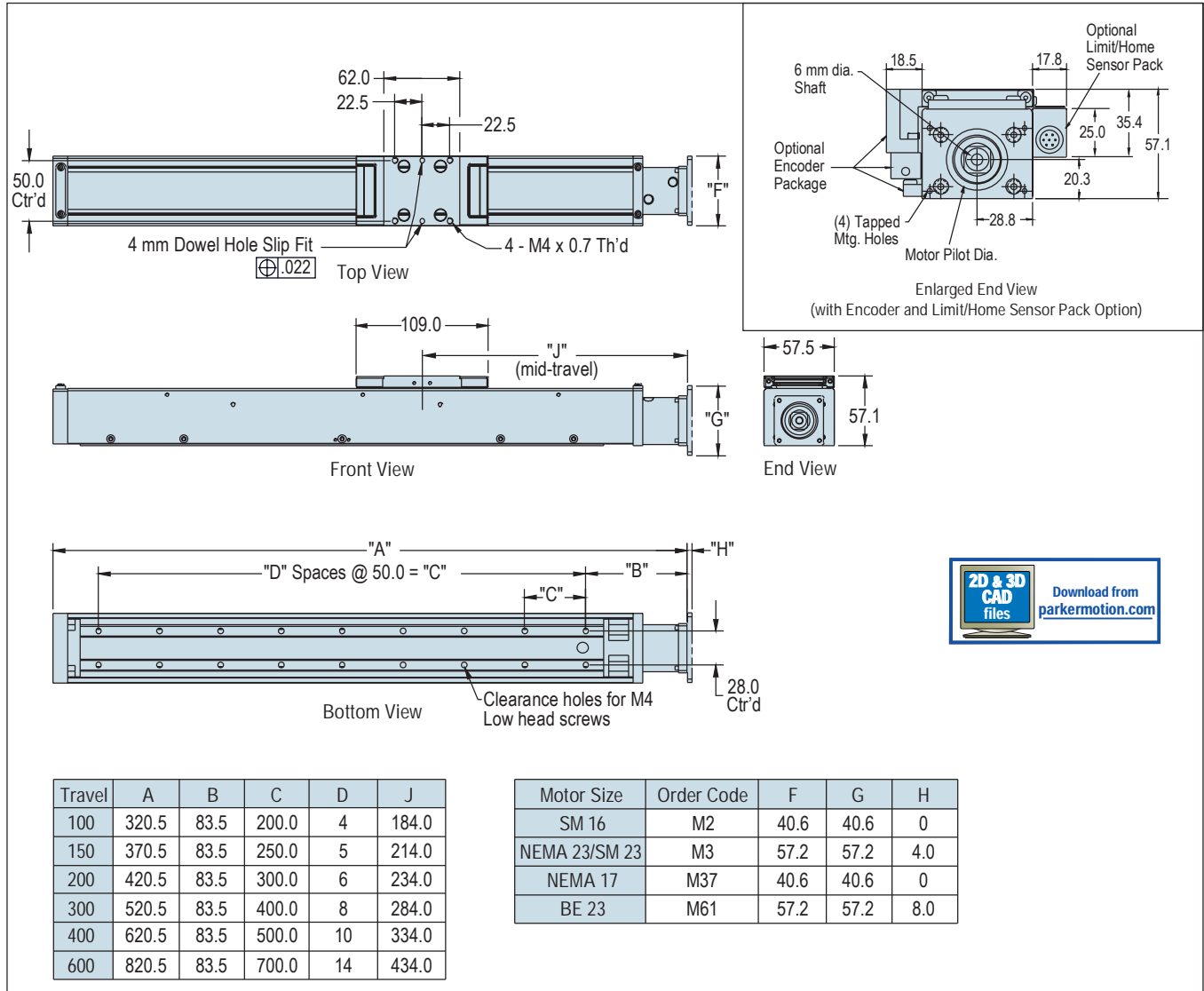
Used to easily accommodate the mounting of different servo or stepper motors.



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 Square Rail Linear Tables

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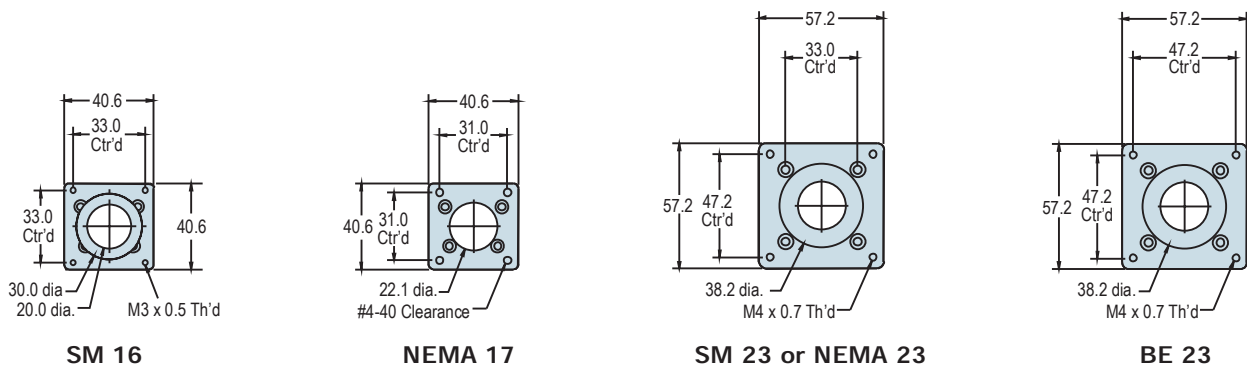
402XR Series - Dimensions (mm)



Screw Driven Tables

In-Line Motor Adapters

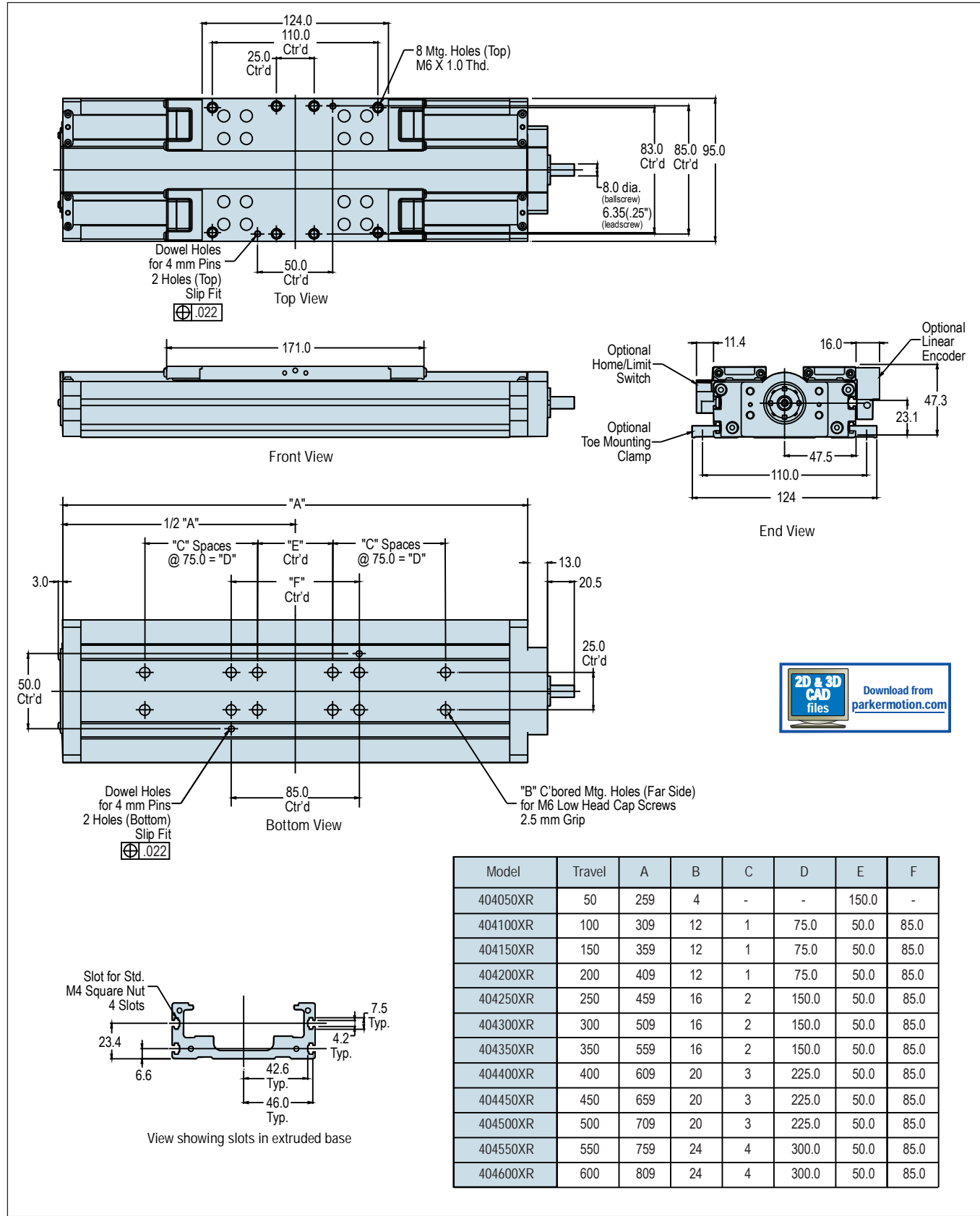
Used to easily accommodate the mounting of different servo or stepper motors.



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404XR Series Dimensions (mm)



Model	Travel	A	B	C	D	E	F
404050XR	50	259	4	-	-	150.0	-
404100XR	100	309	12	1	75.0	50.0	85.0
404150XR	150	359	12	1	75.0	50.0	85.0
404200XR	200	409	12	1	75.0	50.0	85.0
404250XR	250	459	16	2	150.0	50.0	85.0
404300XR	300	509	16	2	150.0	50.0	85.0
404350XR	350	559	16	2	150.0	50.0	85.0
404400XR	400	609	20	3	225.0	50.0	85.0
404450XR	450	659	20	3	225.0	50.0	85.0
404500XR	500	709	20	3	225.0	50.0	85.0
404550XR	550	759	24	4	300.0	50.0	85.0
404600XR	600	809	24	4	300.0	50.0	85.0

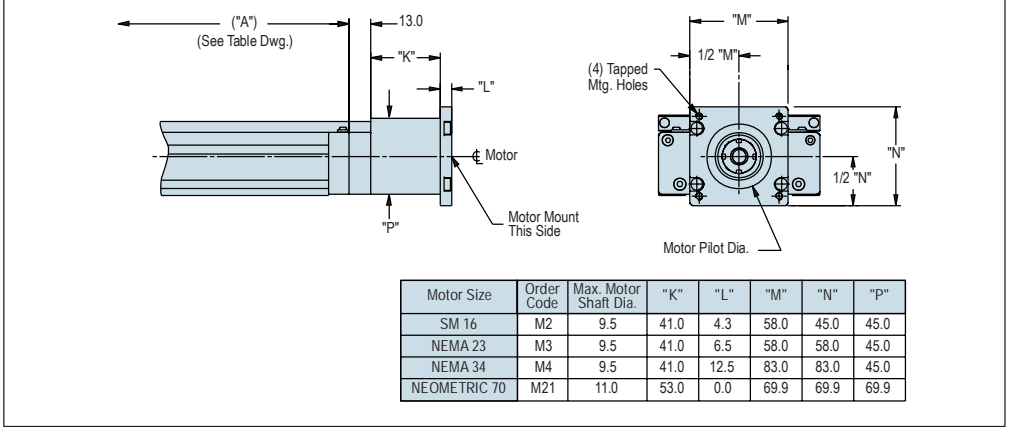
Catalog 8092/USA
 Square Rail Linear Tables

High Precision

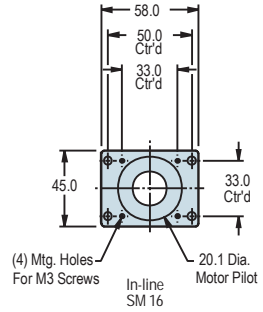
404XR Series Motor Mount - Dimensions (mm)

In-line motor mounting allows the motor to be mounted directly to the drive screw via the selected motor coupling.

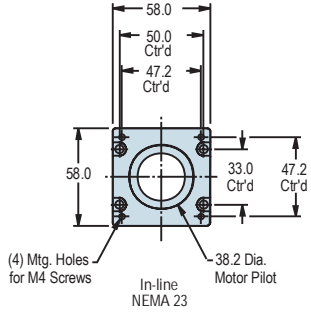
Used to easily accommodate the mounting of different frame sizes. These adapter plates can be ordered separately by part number below.



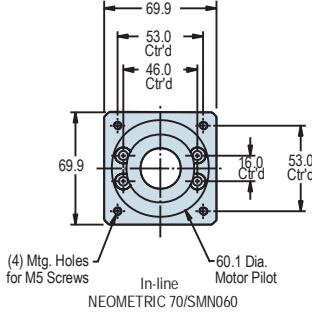
Part No. 002-3614-01
 SM 16



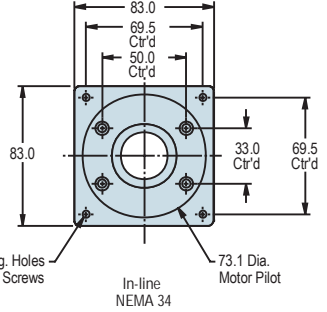
Part No. 002-3615-01
 NEMA 23



Part No. 002-3616-01
 NEOMETRIC 70/SMN060

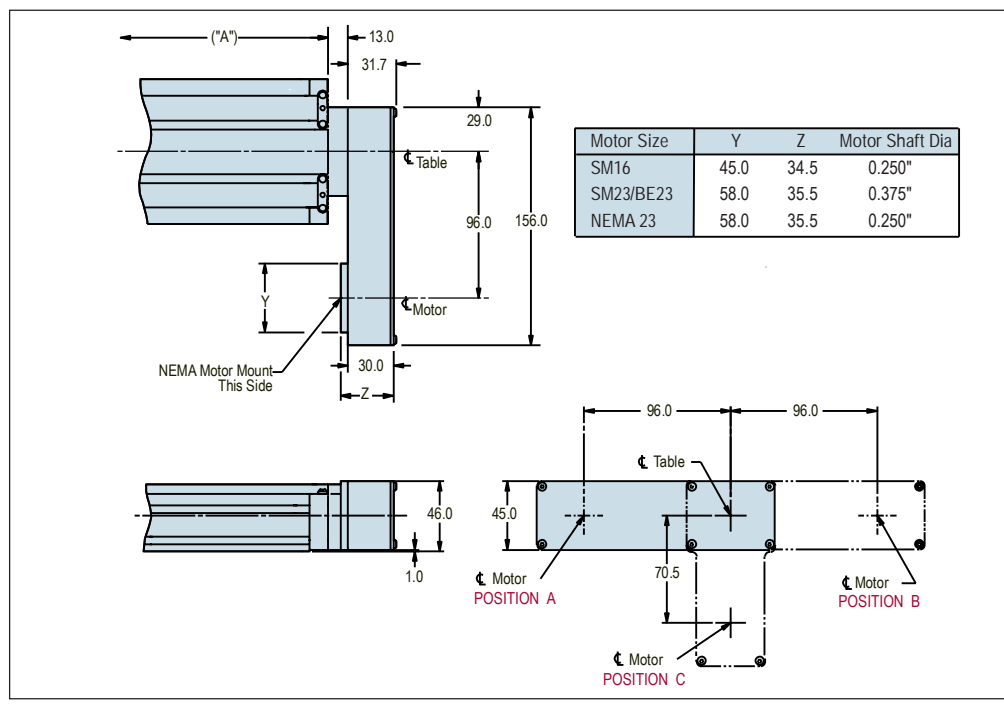


Part No. 002-3617-01
 NEMA 34

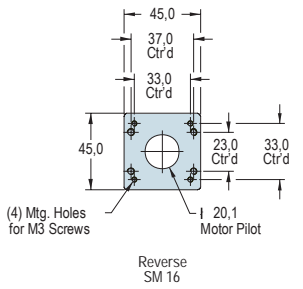


Screw Driven Tables

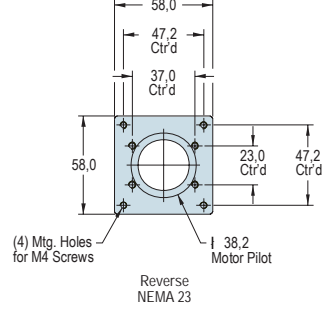
Parallel motor mounting is employed whenever a shorter overall unit length is needed. The motor is positioned along the sides or bottom of the table as designated by position A, B, or C. (No coupling required)



SM 16



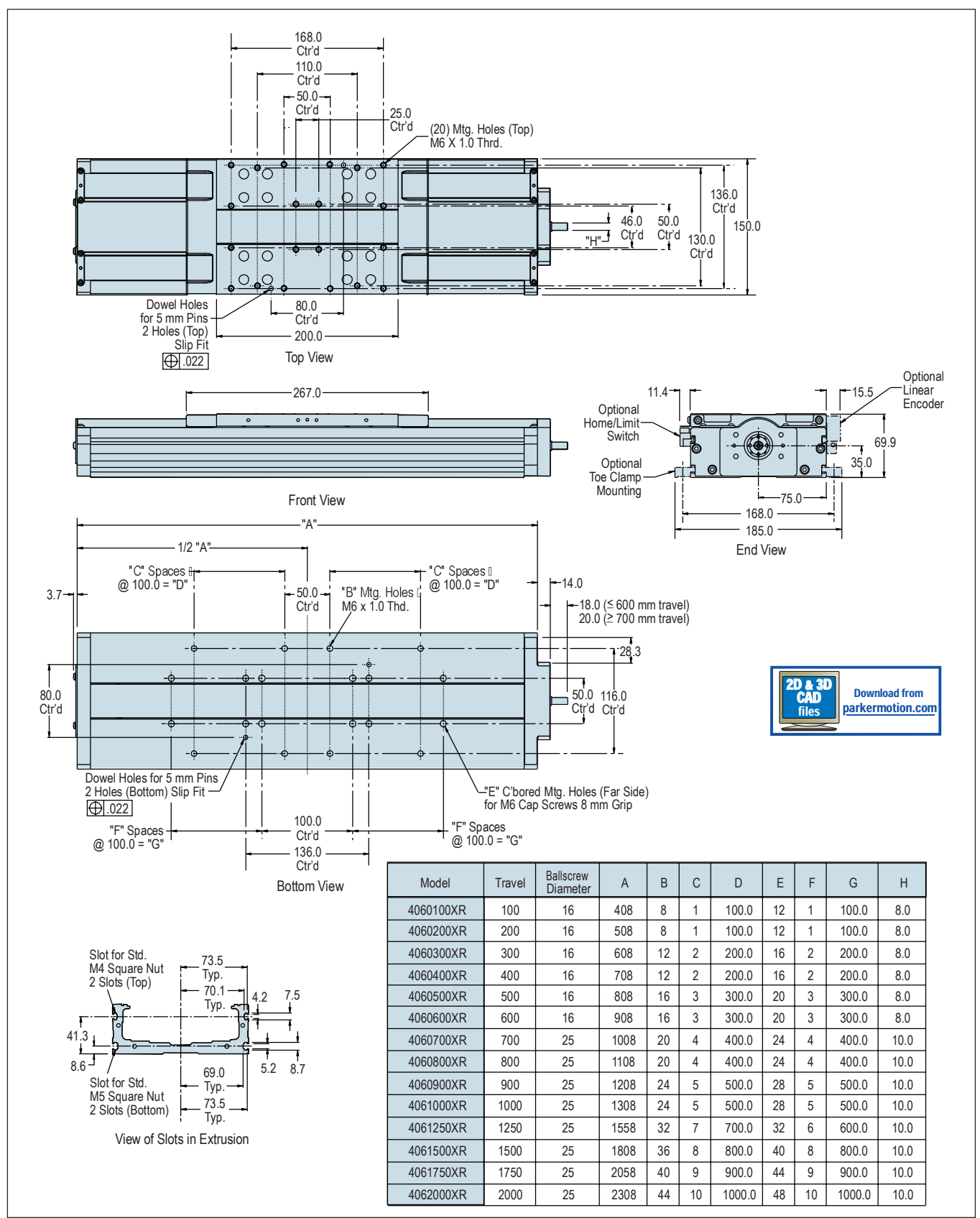
NEMA 23



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406XR Series Dimensions (mm)



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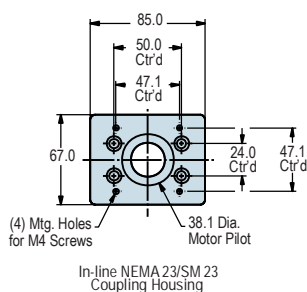
406XR Series - Motor Mount Dimensions (mm)

In-line motor mounting allows the motor to be mounted directly to the drive screw via the selected motor coupling.

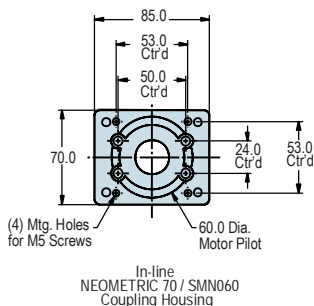
Used to easily accommodate the mounting of different frame sizes. These adapter plates can be ordered separately by part number below.

Motor Size	Order Code	Max Motor Shaft Dia.	K	L	M	N	P
NEMA 23/SM 23	M3	9.5	41.0	0.0	85.0	67.0	67.0
NEMA 34 NEOMETRIC 34	M4, M17	16.0	53.0	13.5	85.0	85.0	70.0
NEOMETRIC 70	M21	16.0	53.0	0.0	85.0	70.0	70.0
NEOMETRIC 92	M29	16.0	53.0	12.5	92.0	92.0	70.0

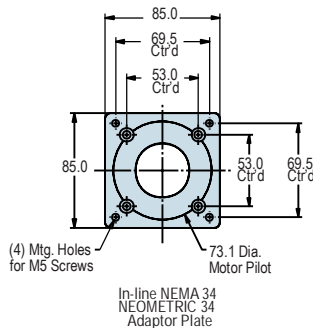
Part No. 002-3620-01
 NEMA 23 or SM 23



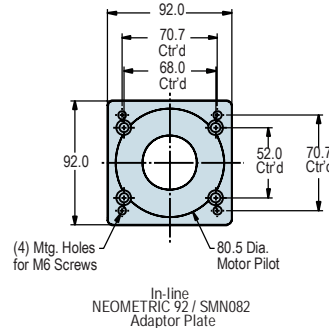
Part No. 002-3621-01
 NEO 70 / SMN060



Part No. 002-3622-01
 NEMA 34 or NEO 34



Part No. 002-3623-01
 NEO 92 / SMN082



Screw Driven Tables

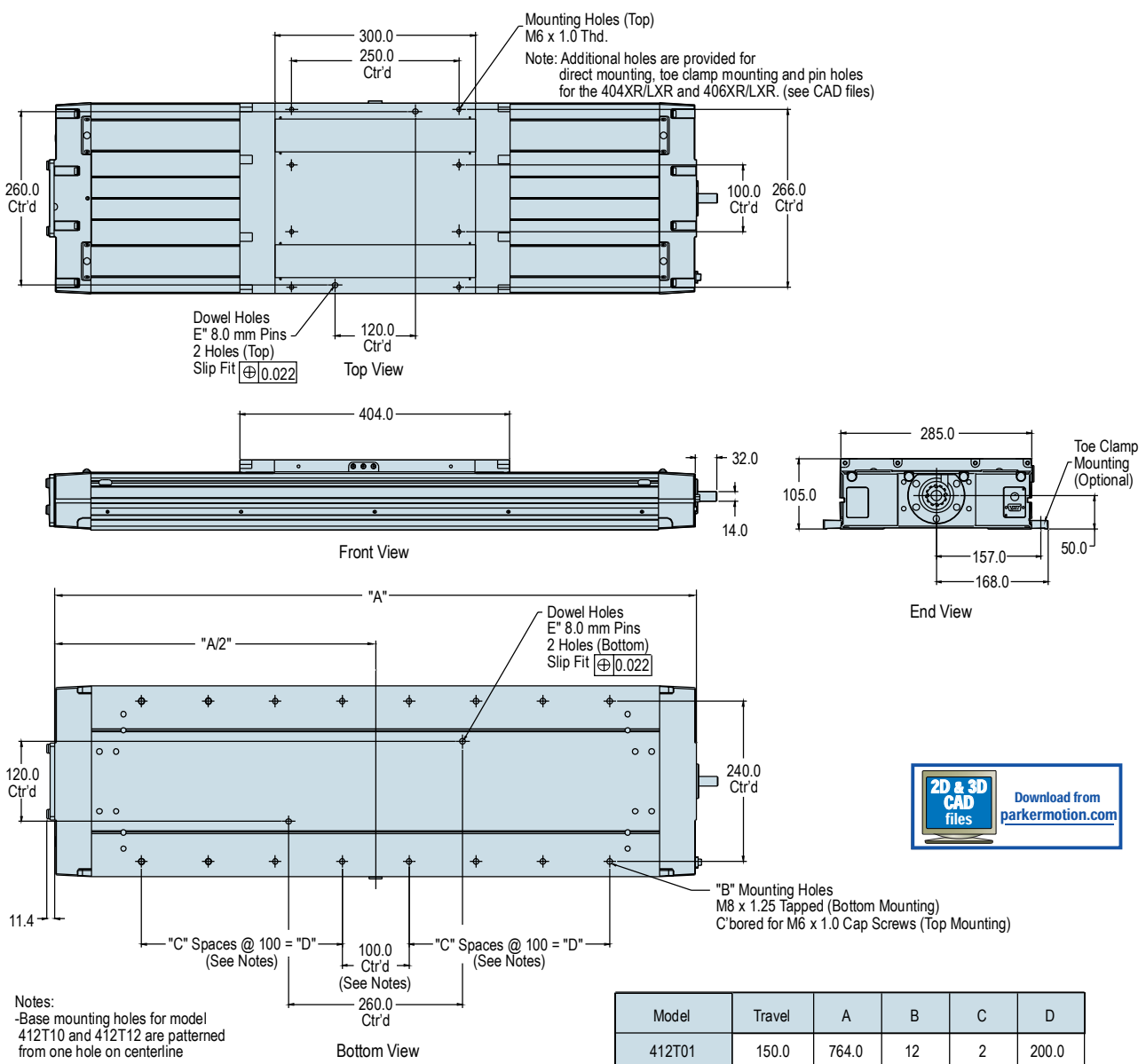
Parallel motor mounting is employed whenever a shorter overall unit length is needed. The motor is positioned along the sides or bottom of the table as designated by position A, B, or C. (No coupling required.)

Motor Size	Y	Z	Motor Shaft Dia
SM23/BE23	70.0	57.5	0.375"
NEMA 34	83.0	62.0	0.375"
NEOMETRIC 34	83.0	62.0	0.500"
NEOMETRIC 70	70.0	62.0	11mm

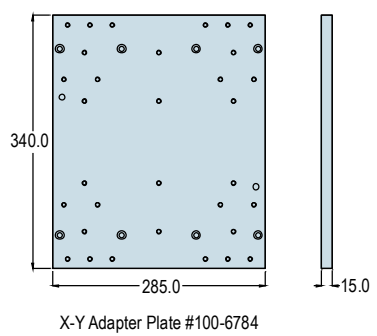
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412XR Series - Dimensions (mm)



Notes:
 -Base mounting holes for model 412T10 and 412T12 are patterned from one hole on centerline



Model	Travel	A	B	C	D
412T01	150.0	764.0	12	2	200.0
412T02	250.0	864.0	16	3	300.0
412T03	350.0	964.0	16	3	300.0
412T04	650.0	1264.0	24	5	500.0
412T05	800.0	1414.0	24	5	500.0
412T06	1000.0	1614.0	28	6	600.0
412T07	1200.0	1814.0	32	7	700.0
412T08	1500.0	2114.0	40	9	900.0
412T09	1750.0	2364.0	44	10	1000.0
412T10	2000.0	2614.0	50	12*	1200.0

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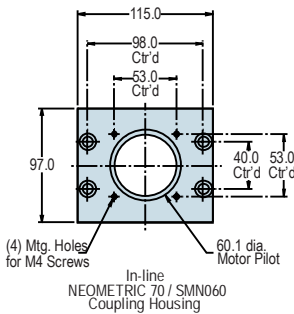
412XR Series Motor Mount Dimensions (mm)

In-line motor mounting allows the motor to be mounted directly to the drive screw via the selected motor coupling.

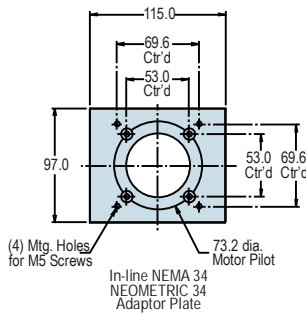
Used to easily accommodate the mounting of different frame sizes. These adapter plates can be ordered separately by part number below.

Motor Size	Order Code	K	L	M	N
NEMA 34	M4	68.0	12.0	115.0	97.0
NEO 34	M17	68.0	12.0	115.0	97.0
NEO 70	M21	68.0	-	115.0	97.0
NEO 92	M29	68.0	12.0	115.0	97.0
M105,SMN100	M33	100.0	-	115.0	115.0

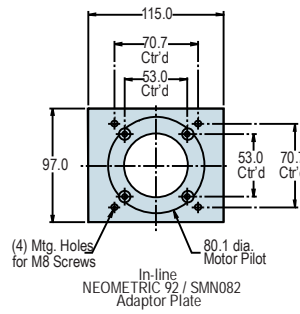
Part No. 002-1907-01
 NEO 70 / SMN060



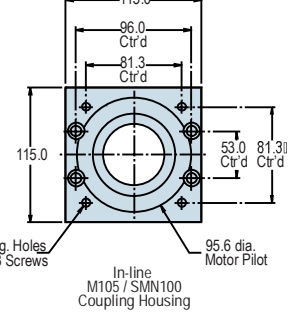
Part No. 002-1907-02
 NEMA 34 or NEO 34



Part No. 002-1907-03
 NEO 92 / SMN082



Part No. 002-1907-04
 M105 / SMN100



Screw Driven Tables

Parallel motor mounting is employed whenever a shorter overall unit length is needed. The motor is positioned along the sides or bottom of the table as designated by position A, B, or C. (No coupling required.)

Motor Size	Part Number	Bolt Circle	Pilot Dia.	Shaft Dia.
NEO 70	002-1908-01	75.0	60.1	11.0mm
NEMA 34	002-1908-02	98.4	73.2	0.375"
NEO 34	002-1908-02	98.4	73.2	0.500"
NEO 92	002-1908-03	100.0	80.1	14.0mm

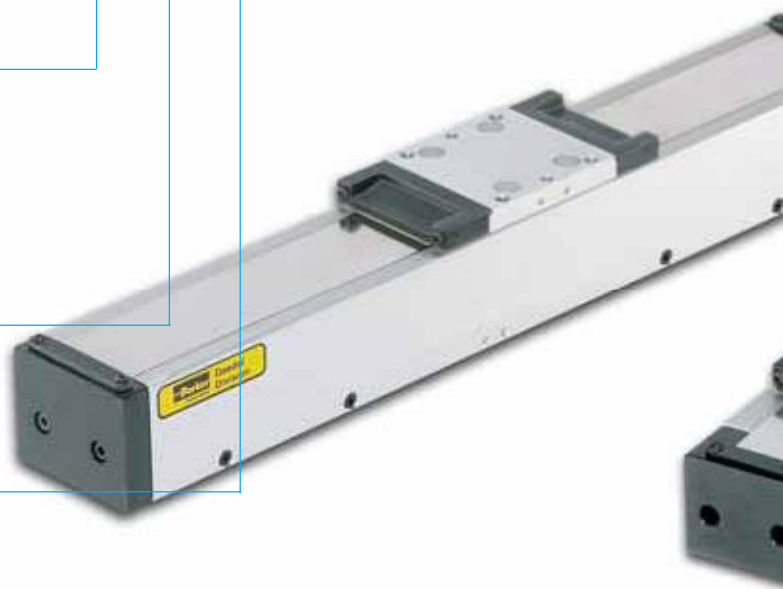
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Square Rail Linear Tables

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401/402XR Series - How to Order

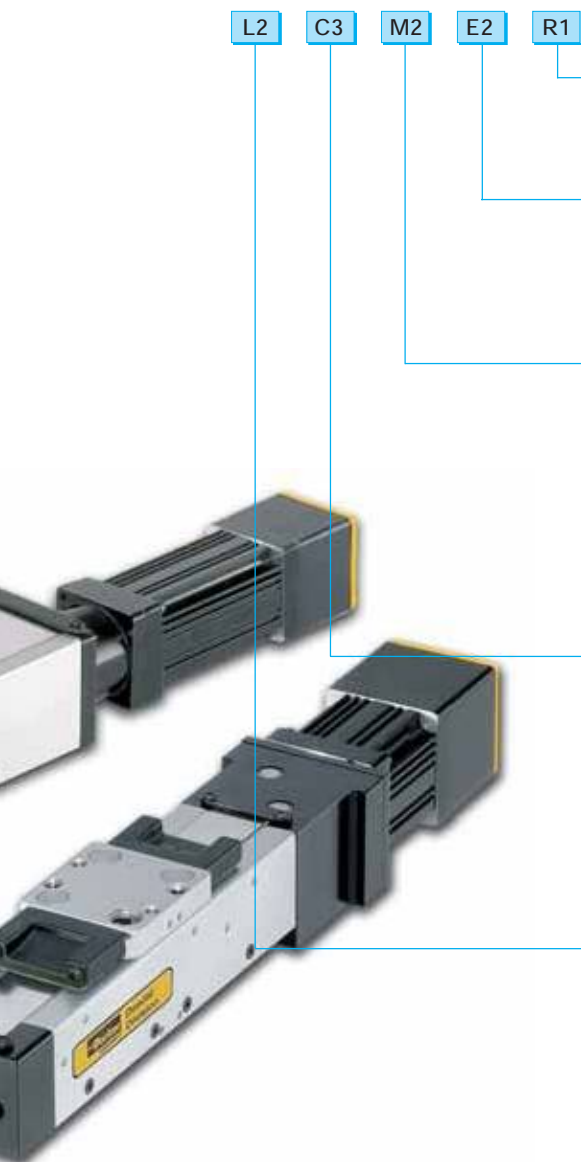
Order Example: **401 100 XR M S D9 H3**

- Series** **401**
..... **402**
- Travel (mm)**
- 50 **050**
- 100 **100**
- 150 **150**
- 200 **200**
- 300 **300**
- 400 **400**
- 600 **600**
- Model** **XR**
- Mounting (metric)** **M**
- Grade**
- Standard **S**
- Precision
(E3 or E4 encoder option required) **P**
- Drive Screw**
- 5 mm Lead **D2**
- 10 mm Lead **D3**
- 2 mm Lead **D9**
- Home Sensor**
- No sensor **H1**
- N.C. current sinking flying leads **H2**
- N.O. current sinking flying leads **H3**
- N.C. current sourcing flying leads **H4**
- N.O. current sourcing flying leads **H5**
- N.C. current sinking locking connector **H6**
- N.O. current sinking locking connector **H7**
- N.C. current sourcing locking connector **H8**
- N.O. current sourcing locking connector **H9**
- N.C. current sinking-sensor pack **H11**
- N.O. current sinking-sensor pack **H12**
- N.C. current sourcing-sensor pack **H13**
- N.O. current sourcing-sensor pack **H14**



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R1 Required Designator

Encoder Option

- E1** No encoder
- E2** 1 μ m resolution linear
- E3** 0.5 μ m resolution linear
- E4** 0.1 μ m resolution linear

Motor Mount

- M2** SM16 - Inline mounting
- M3** NEMA23 - Inline mounting
- M37** NEMA17 - Inline mounting
- M61** BE23 - Inline mounting

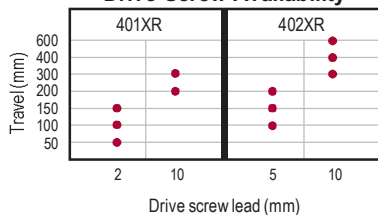
Motor Coupling

- C1** No coupling
 - C2** 6,3 mm (.25 in) bore Oldham
 - C3** 6,3 mm (.25 in) bore Bellows
 - C4** 9,5 mm (.38 in) bore Oldham (402XR only)*
 - C5** 9,5 mm (.38 in) bore Bellows*
 - C24** 5 mm (.20 in) bore Oldham
 - C25** 5 mm (.20 in) bore Bellows
- *NEMA 23 frame size only (M3, M61)

Limit Sensors

- L1** No sensor
- L2** N.C. current sinking flying leads
- L3** N.O. current sinking flying leads
- L4** N.C. current sourcing flying leads
- L5** N.O. current sourcing flying leads
- L6** N.C. current sinking locking connector
- L7** N.O. current sinking locking connector
- L8** N.C. current sourcing locking connector
- L9** N.O. current sourcing locking connector
- L11** N.C. current sinking-sensor pack
- L12** N.O. current sinking-sensor pack
- L13** N.C. current sourcing-sensor pack
- L14** N.O. current sourcing-sensor pack

Drive Screw Availability



Screw Driven Tables

Catalog 8092/USA
Square Rail Linear Tables

High Precision

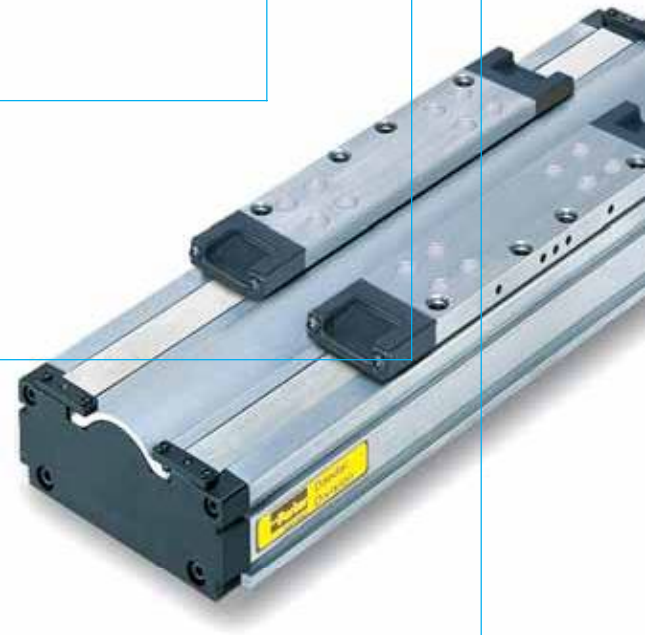
404XR Series - How to Order

Order Example: **404** **450** **XR** **M** **S** **-** **D33** **-** **H4** **L9**

- Model Series** **404**
- Table Travel**
- 50 mm **50** 350 mm **350**
- 100 mm **100** 400 mm **400**
- 150 mm **150** 450 mm **450**
- 200 mm **200** 500 mm **500**
- 250 mm **250** 550 mm **550**
- 300 mm **300** 600 mm **600**
- Table Style** **XR**
- Mounting (Metric)** **M**
- Grade**
- Precision grade **P**
- Standard grade **S**
- Drive Screw**
- Free travel **D1** 1 mm V thread leadscrew **D31**
- 5 mm ballscrew **D2** 2 mm V thread leadscrew **D32**
- 10 mm ballscrew **D3** 5 mm V thread leadscrew **D33**
- 20 mm ballscrew **D4** .10" V thread leadscrew **D34**
- (standard grade only) **D4** .10" acme thread leadscrew **D35**
- Home Sensor Ass'y. (one sensor)**
- No home sensor **H1**
- N.C. current sinking, flying leads **H2**
- N.O. current sinking, flying leads **H3**
- N.C. current sourcing, flying leads **H4**
- N.O. current sourcing, flying leads **H5**
- N.C. current sinking, w/locking connector **H6**
- N.O. current sinking, w/locking connector **H7**
- N.C. current sourcing, w/locking connector **H8**
- N.O. current sourcing, w/locking connector **H9**
- N.C. current sinking-sensor pack **H11**
- N.O. current sinking-sensor pack **H12**
- N.C. current sourcing-sensor pack **H13**
- N.O. current sourcing-sensor pack **H14**
- Travel Limit Sensor Ass'y (two sensors)**
- No limit sensors **L1**
- N.C. current sinking, flying leads **L2**
- N.O. current sinking, flying leads **L3**
- N.C. current sourcing, flying leads **L4**
- N.O. current sourcing, flying leads **L5**
- N.C. current sinking, w/locking connector **L6**
- N.O. current sinking, w/locking connector **L7**

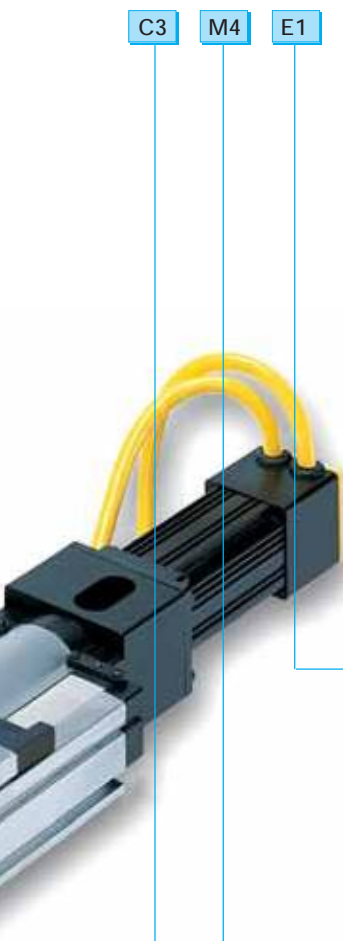
- N.C. current sourcing, w/locking connector **L8**
- N.O. current sourcing, w/locking connector **L9**
- N.C. current sinking-sensor pack **L11**
- N.O. current sinking-sensor pack **L12**
- N.C. current sourcing-sensor pack **L13**
- N.O. current sourcing-sensor pack **L14**

Note: Sensors with locking connector include 5 meter extension cable.



Catalog 8092/USA
 Square Rail Linear Tables

High Precision



C3 M4 E1 B1 R1 P1

Pinning Options

- P1 No multi-axis pinning
- P2 X axis transfer pinning to Y or Z axis - 30 arc seconds
- P3 Y axis transfer pinning to X axis - 30 arc seconds
- P4 Z axis transfer pinning to X axis - 30 arc seconds
- P5 X axis standard pinning to Y axis - 125 arc seconds
- P6 Y axis standard pinning to X axis - 125 arc seconds

Cleanroom Preparation

- R1 Class 1000 compatible (standard)
- R2 Class 10 compatible (consult factory for details)
- R5 Class 1000 (Std.) with easy lube system
- R7 Class 1000 with external stainless hardware
- R8 Class 10 with external stainless hardware
- R9 Class 1000 with easy lube system & external stainless hardware

Brake Option

- B1 No brake
 - B2 Shaftbrake*
- **Brake option cannot be used in conjunction with Rotary encoder option. Refer to holding torque chart (page B15) to confirm maximum load.

Encoder Option

- E1 No encoder
- E2 Linear encoder (tape scale) 1 micron
- E3 Linear encoder (tape scale) 0.5 micron
- E4 Linear encoder (tape scale) 0.1 micron
- E5 Rotary shaft encoder*

Motor Mount***

- M1 No motor mount
- M2 SM 16 - In-line mounting
- M3 NEMA 23 & SM 23 - In-line mounting
- M4 NEMA 34 - In-line mounting
- M5 SM16 - Parallel mounting, "A" location
- M6 SM16 - Parallel mounting, "B" location
- M7 SM16 - Parallel mounting, "C" location
- M8 NEMA 23 - Parallel mounting, "A" location
- M9 NEMA 23 - Parallel mounting, "B" location
- M10 NEMA 23 - Parallel mounting, "C" location
- M11 SM23 - Parallel mounting, "A" location
- M12 SM23 - Parallel mounting, "B" location
- M13 SM23 - Parallel mounting, "C" location
- M21 Neometric 70 - In-line mounting
- M37 NEMA 17 - In-line mounting
- M42 SM232AQ-NPSN Servo motor - In-line mtg.
- M46 HV232-02-10 Stepper Motor - In-line mtg.
- M49 Handcrank / no read out
- M50 Handcrank w/ read out (0.10 or 1 mm leads only)
- M61 BE23 - In-line mounting
- M62 BE23 - Parallel mounting, "A" location
- M63 BE23 - Parallel mounting, "B" location
- M64 BE23 - Parallel mounting, "C" location
- M71 SGM01 - In-line mounting
- M75 SGM02 - In-line mounting

*** See page B22 for maximum allowable motor shaft diameter. Parallel motor mounts are not available with leadscrew drives.

Motor Coupling

- C1 No coupling (req. for parallel mounting)
- C2 0.250" Oldham
- C3 0.250" Bellows (required for prec.grade)
- C4 0.375" Oldham
- C5 0.375" Bellows (required for prec.grade)
- C6 11 mm Oldham
- C7 11 mm Bellows (req. for prec.grade)
- C10 14 mm Oldham (M75 motor option)
- C11 14 mm Bellows (M75 motor option)
- C22 9 mm Oldham
- C23 9 mm Bellows
- C24 5 mm Oldham (M37 NEMA 17 w/5mm shaft)
- C25 5 mm Bellows (M37 NEMA 17 w/5mm shaft)
- C26 8 mm Oldham (M71 motor option)
- C27 8 mm Bellows (M71 motor option)
- C28 0.188" Oldham (M37 NEMA 17)
- C29 0.188" Bellows (M37 NEMA 17)
- C30 0.250" Oldham†
- C31 0.250" Bellows†
- C32 0.375" Oldham†
- C33 0.375" Bellows†
- C39 9mm Bellows†

†Couplings for leadscrew drive

Screw Driven Tables

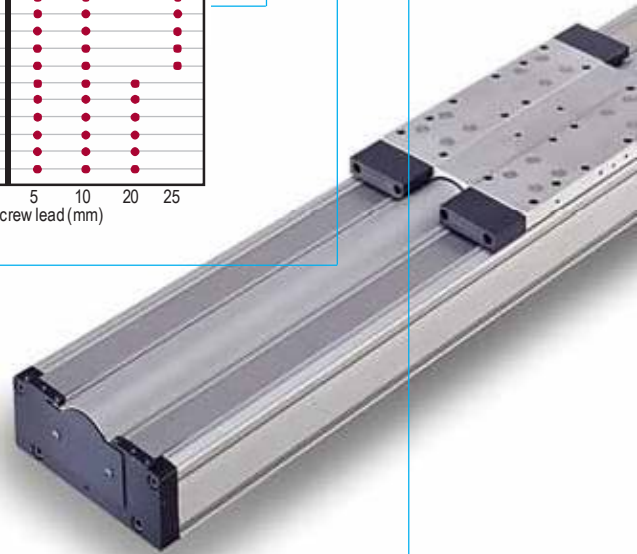
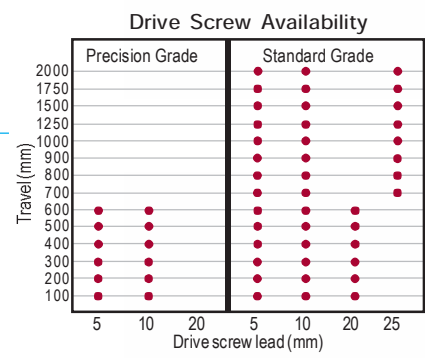
Catalog 8092/USA
Square Rail Linear Tables

High Precision

406XR Series - How to Order

Order Example: 406 900 XR M S - D3 H4 L8

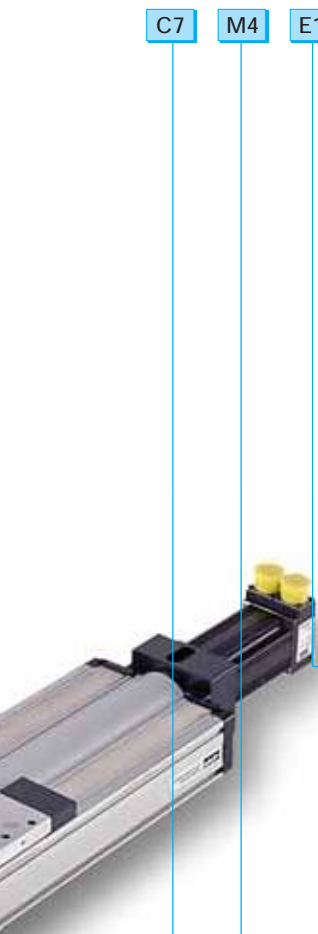
- Model Series** 406
- Table Travel**
- 100 mm 100 800 mm 800
- 200 mm 200 900 mm 900
- 300 mm 300 1000 mm 1000
- 400 mm 400 1250 mm 1250
- 500 mm 500 1500 mm 1500
- 600 mm 600 1750 mm 1750
- 700 mm 700 2000 mm 2000
- Table Style** XR
- Mounting (Metric)** M
- Grade**
- Precision grade (max travel 600 mm) P
- Standard grade (max travel 2000 mm) S
- Drive Screw**
- Free travel D1
- 5 mm ballscrew D2
- 10 mm ballscrew D3
- 20 mm ballscrew D4
- 25 mm ballscrew D5
- Home Sensor Assembly (one sensor)**
- No home sensor H1
- N.C. current sinking, flying leads H2
- N.O. current sinking, flying leads H3
- N.C. current sourcing, flying leads H4
- N.O. current sourcing, flying leads H5
- N.C. current sinking, w/locking connector H6
- N.O. current sinking, w/locking connector H7
- N.C. current sourcing, w/locking connector H8
- N.O. current sourcing, w/locking connector H9
- N.C. current sinking-sensor pack H11
- N.O. current sinking-sensor pack H12
- N.C. current sourcing-sensor pack H13
- N.O. current sourcing-sensor pack H14
- Travel Limit Sensor Assembly (two sensors)**
- No limit sensors L1
- N.C. current sinking, flying leads L2
- N.O. current sinking, flying leads L3
- N.C. current sourcing, flying leads L4
- N.O. current sourcing, flying leads L5
- N.C. current sinking, w/locking connector L6
- N.O. current sinking, w/locking connector L7



- N.C. current sourcing, w/locking connector L8
 - N.O. current sourcing, w/locking connector L9
 - N.C. current sinking-sensor pack L11
 - N.O. current sinking-sensor pack L12
 - N.C. current sourcing-sensor pack L13
 - N.O. current sourcing-sensor pack L14
- Note: Sensors with locking connector include 5 meter extension cable.

Catalog 8092/USA
 Square Rail Linear Tables

High Precision



- C7
- M4
- E1
- B1
- R1
- P1

Pinning Option

- P1 No multi-axis pinning
- P2 X axis transfer pinning to Y or Z axis - 30 arc seconds
- P3 Y axis transfer pinning to X axis - 30 arc seconds
- P4 Z axis transfer pinning to X axis - 30 arc seconds
- P5 X axis standard pinning to Y axis - 125 arc seconds
- P6 Y axis standard pinning to X axis - 125 arc seconds

Cleanroom Preparation

- R1 Class 1000 compatible (standard)
- R2 Class 10 compatible (consult factory for details)

Brake Option

- B1 No brake
 - B2 Shaft brake*
- * Brake option cannot be used in conjunction with Rotary encoder option. Refer to holding torque chart (page B15) to confirm maximum load.

Encoder Option

- E1 No encoder
- E2 Linear encoder (tape scale) 1 micron
- E3 Linear encoder (tape scale) 0.5 micron
- E4 Linear encoder (tape scale) 0.1 micron
- E5 Rotary shaft encoder*

Motor Mount**

- M1 No motor mount
- M3 NEMA 23 & SM23 - In-line mounting
- M4 NEMA 34 In-line mounting
- M11 SM23 - Parallel mounting, "A" location***
- M12 SM23 - Parallel mounting, "B" location***
- M13 SM23 - Parallel mounting, "C" location***
- M14 NEMA 34 - Parallel mounting, "A" location
- M15 NEMA 34 - Parallel mounting, "B" position
- M16 NEMA 34 - Parallel mounting, "C" position
- M17 Neometric 34 - In-line mounting
- M18 Neometric 34 - Parallel mounting, "A" location
- M19 Neometric 34 - Parallel mounting, "B" location

- M20 Neometric 34 - Parallel mounting, "C" location
- M21 Neometric 70 - In-line mounting
- M22 Neometric 70 - Parallel mounting, "A" location
- M23 Neometric 70 - Parallel mounting, "B" location
- M24 Neometric 70 - Parallel mounting, "C" location
- M29 Neometric 92 - In-line mounting
- M61 BE23 - In-line mounting
- M62 BE23 - Parallel mounting, "A" location
- M63 BE23 - Parallel mounting, "B" location
- M64 BE23 - Parallel mounting, "C" location
- M75 SGM02 - In-line mounting

Motor Coupling

- C1 No coupling (required for parallel mounting)
- C2 0.250" Oldham
- C3 0.250" Bellows (required for precision grade)
- C4 0.375" Oldham
- C5 0.375" Bellows (required for precision grade)
- C6 11.0 mm Oldham
- C7 11.0 mm Bellows (required for precision grade)
- C8 0.500" Oldham
- C9 0.500" Bellows (required for precision grade)
- C10 14.0 mm Oldham
- C11 14.0 mm Bellows (required for precision grade)

** See page B24 for maximum allowable motor shaft diameter.
 *** SM23 motor requires long shaft option.

Screw Driven Tables

Catalog 8092/USA
Square Rail Linear Tables

High Precision

412XR Series - How to Order

Order Example: **412 T03 XR M S - D2 H3 L3**

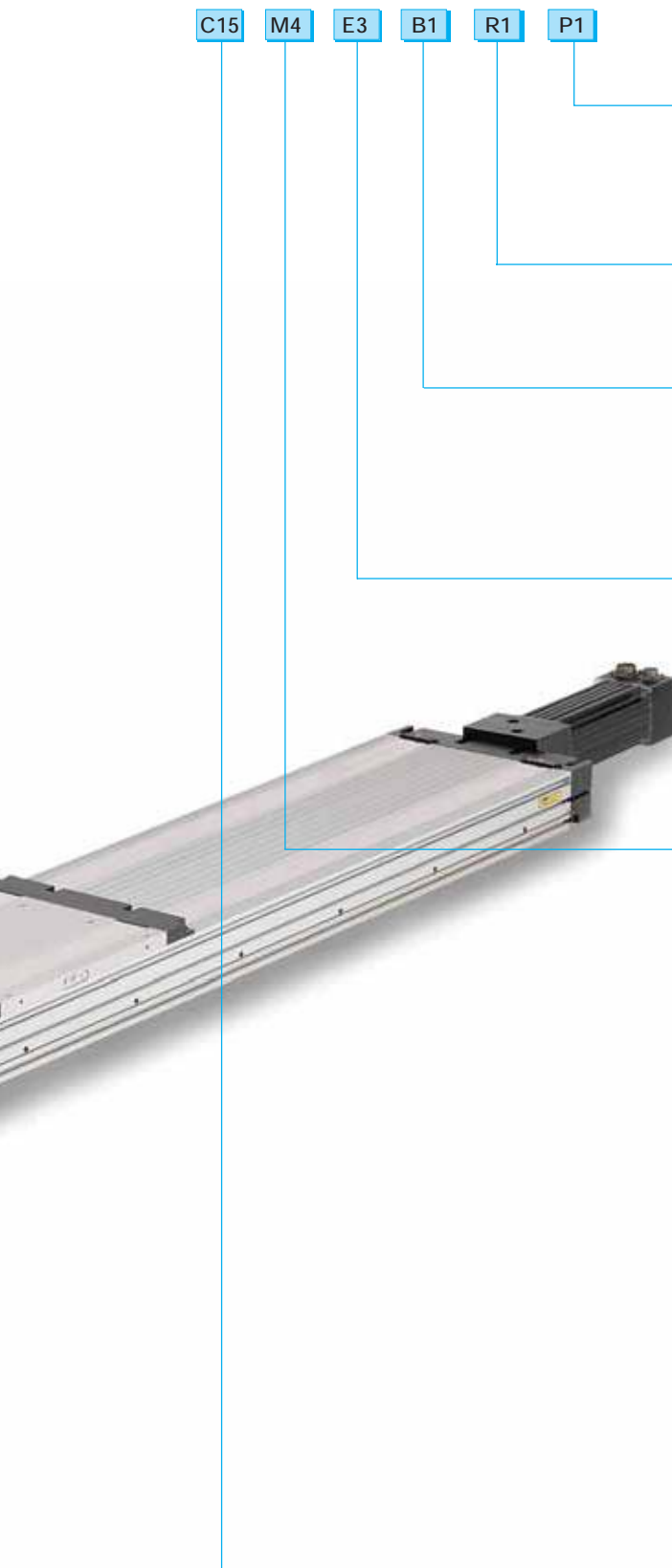
- Model Series** 412
- Table Travel (mm)**
- 150 T01
- 250 T02
- 350 T03
- 650 T04
- 800 T05
- 1000 T06
- 1200 T07
- 1500 T08
- 1750 T09
- 2000 T10
- Table Style** XR
- Mounting (Metric)** M
- Grade**
- Standard grade S
- Drive Screw**
- Free travel D1
- 5 mm lead D2
- 10 mm lead D3
- 25 mm lead D5
- 32 mm lead D6
- Home Sensor***
- No home sensor H1
- N.C. current sinking H2
- N.O. current sinking H3
- N.C. current sourcing H4
- N.O. current sourcing H5
- Travel Limit Sensor***
- No limit sensor L1
- N.C. current sinking L2
- N.O. current sinking L3
- N.C. current sourcing L4
- N.O. current sourcing L5



* Includes a 3 meter extension cable with flying lead termination.
 A 7,5 meter extension cable can be ordered separately.

Catalog 8092/USA
Square Rail Linear Tables

High Precision



Pinning Option

- P1** No multi-axis pinning
- P2** X axis transfer pinning to Y axis - 30 arc seconds
- P3** Y axis transfer pinning to X axis - 30 arc seconds*
* P3 option includes a required 15 mm thick adapter.

Cleanroom Preparation

- R1** Class 1000, strip seals
- R2** Class 100, no strip seals

Brake Option

- B1** No brake
 - B2** Shaft brake**
- ** Brake option cannot be used in conjunction with Rotary encoder option. Refer to holding torque chart (page B14) to confirm maximum load.

Encoder Option

- E1** No encoder
- E2** Linear encoder (tape scale) 1 micron
- E3** Linear encoder (tape scale) 0.5 micron
- E4** Linear encoder (tape scale) 0.1 micron
- E5** Linear encoder (tape scale) 5.0 micron
- E6** Rotary encoder**
- E7** Sine encoder

Motor Mount

- M1** No motor mount
- M4** NEMA 34 - In-line mounting
- M14** NEMA 34 - Parallel mounting, "A" position
- M15** NEMA 34 - Parallel mounting, "B" position
- M17** Neometric 34 - In-line mounting
- M18** Neometric 34 - Parallel mounting, "A" position
- M19** Neometric 34 - Parallel mounting, "B" position
- M21** Neometric 70 - In-line mounting
- M22** Neometric 70 - Parallel mounting, "A" position
- M23** Neometric 70 - Parallel mounting, "B" position
- M29** Neometric 92 - In-line mounting
- M30** Neometric 92 - Parallel mounting, "A" position
- M31** Neometric 92 - Parallel mounting, "B" position
- M33** M105, SMN100 - In-line mounting

Motor Coupling

- | | |
|-------------------------------|------------------------------------|
| C1 No coupling | C8 0.50" Oldham |
| C4 0.375" bore Oldham | C9 0.50" Bellows |
| C5 0.375" bore Bellows | C10 14.0 mm Oldham |
| C6 11.0 mm Oldham | C11 14.0 mm Bellows |
| C7 11.0 mm Bellows | C14 0.750" (19.0mm) Oldham |
| | C15 0.750" (19.0mm) Bellows |

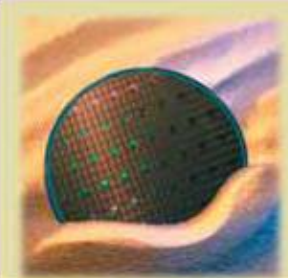
Screw Driven Tables

Parker's XRS Systems

***"standard" Cartesian robot modules
for cost effective automation***



Life Sciences



Semiconductor



Electronics



***Automated
Assembly &
Dispensing***

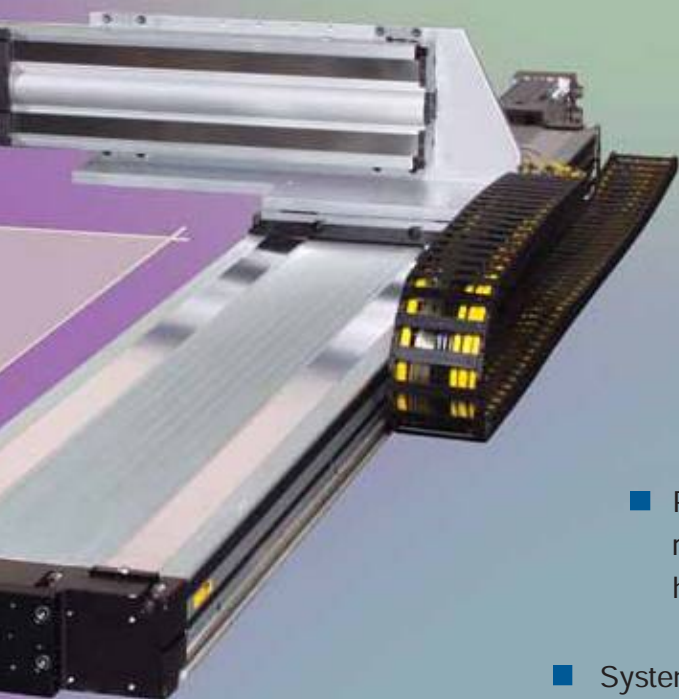


“Standard” XRS Systems are pre-engineered to optimize work-space, simplify selection, shorten delivery and lower costs.

Scalability - With 3 size platforms and 124 standard systems you can find a standard solution for your application.

Technology - A unique mix of linear servo motor and ballscrew drive technology provides optimized dynamic performance for today's demanding automation applications.

Reliability - XRS Systems are built from Parker's XR / LXR linear modules, time tested and proven in thousands of applications world-wide.



- Innovative strip seal design provides IP30 protection to interior components as well as enhance the overall appearance.

- Inertia matched brushless servo motors provide compatibility with Parker and other industry standard drives and controls.

- Pre-installed air, power and signal lines routed to moving payload for convenient hook-up and long life operation.



- System cable management features "high-flex" shielded cables with quick disconnect convenience.

- Precision dowel holes in carriage surface allows repeatable mounting of tooling to robot. Precision dowel holes in base allows repeatable mounting of entire robot module into machine.



- All axes are aligned and pinned orthogonal so that axes may be removed and re-attached with factory precision.

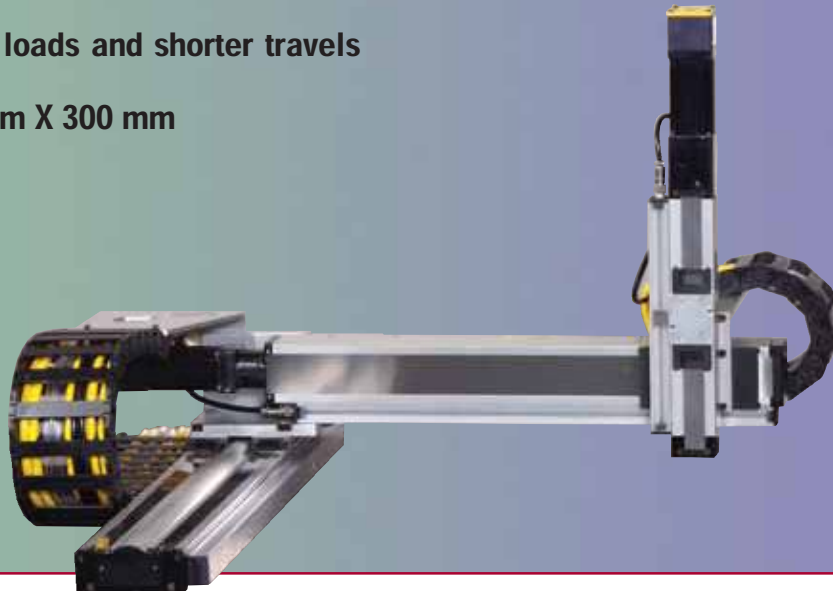
- Cleanroom preparation and other options are available for easy selection

Catalog 8092/USA
Square Rail Linear Tables

High Precision

XR Cartesian Systems - Small Platform

- Smaller footprint for light loads and shorter travels
- Max. X-Y work area: 600mm X 300 mm
- Maximum load: 5 kg



Specifications

System No.	Style	System No.	Style	Max. Load (kg)	Work Envelope (mm)			Velocity (mm/s.)			Resolution (µm)			Repeatability** (µm)		
					X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
XRS-0001	RH	XRS-0009	LH	5	300	300	n/a	600	700	n/a	2.5	2.5	n/a	16	15	n/a
XRS-0002	RH	XRS-0010	LH	5	300	300	100	600	700	140	2.5	2.5	0.5	16	15	10
XRS-0003	RH	XRS-0011	LH	5	600	300	n/a	600	700	n/a	2.5	2.5	n/a	16	15	n/a
XRS-0004	RH	XRS-0012	LH	5	600	300	100	500	700	140	2.5	2.5	0.5	16	15	10
XRS-0005	RH	XRS-0013	LH	5	300	300	n/a	1500	700	n/a	1	2.5	n/a	16	15	n/a
XRS-0006	RH	XRS-0014	LH	5	300	300	100	1500	700	140	1	2.5	0.5	16	15	10
XRS-0007	RH	XRS-0015	LH	5	600	300	n/a	2250	700	n/a	1	2.5	n/a	16	15	n/a
XRS-0008	RH	XRS-0016	LH	5	600	300	100	2250	700	140	1	2.5	0.5	16	15	10

** Repeatability established at maximum load - fully extended stroke

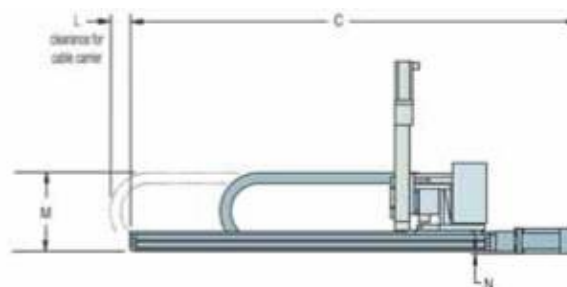
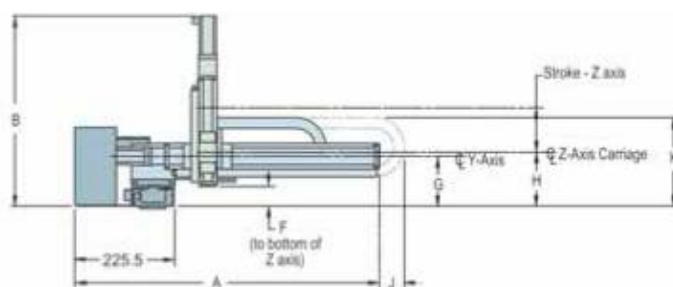
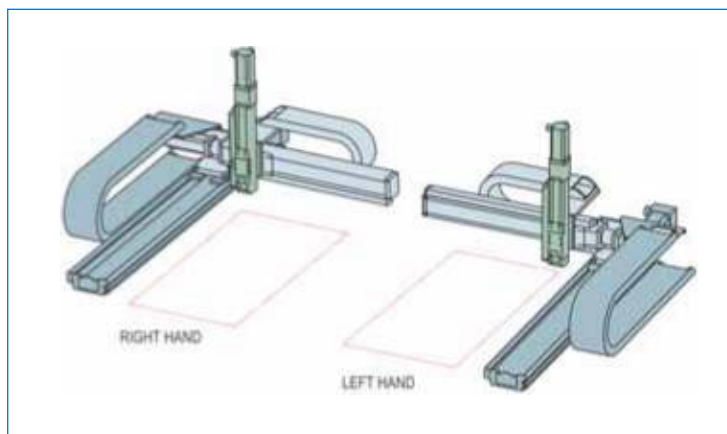
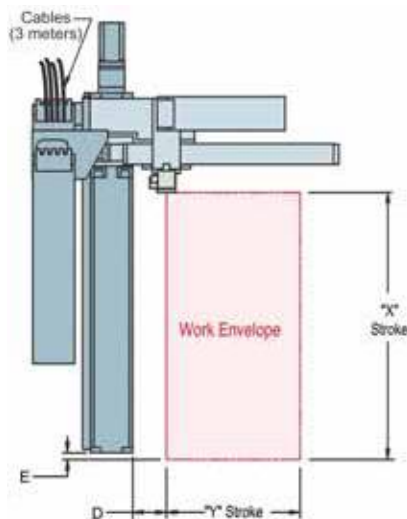
Linear Motor driven actuator
 Ballscrew driven actuator

Recommended Parker Servo Drive: X axis: AR-02_E Y axis: AR-02_E Z axis: AR-02_E

Catalog 8092/USA
Square Rail Linear Tables

High Precision

Dimensions - Small Platform



Screw Driven Tables

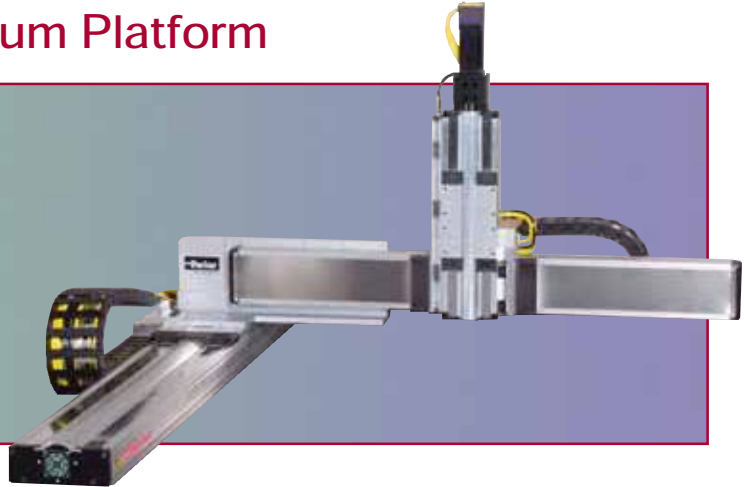
System		System		A	B	C	D	E	F	G	H	J	K	L	M	N	X	Y	Z
XRS-0001	RH	XRS-0009	LH	688.0	n/a	707.1	75.5	-27.7	n/a	112.0	n/a	35	198.7	50	198	6	300	300	n/a
XRS-0002	RH	XRS-0010	LH	688.0	463.4	707.1	75.5	15.3	46.7	112.0	120	35	198.7	50	198	6	300	300	100
XRS-0003	RH	XRS-0011	LH	688.0	n/a	1000.1	75.5	-27.7	n/a	112.0	n/a	35	198.7	50	198	6	600	300	n/a
XRS-0004	RH	XRS-0012	LH	688.0	463.4	1000.1	75.5	15.3	46.7	112.0	120	35	198.7	50	198	6	600	300	100
XRS-0005	RH	XRS-0013	LH	689.5	n/a	596.0	74.0	-71.2	n/a	124.7	n/a	35	211.5	50	211	n/a	300	300	n/a
XRS-0006	RH	XRS-0014	LH	689.5	476.1	596.0	74.0	-28.3	59.5	124.7	133	35	211.5	50	211	n/a	600	300	100
XRS-0007	RH	XRS-0015	LH	689.5	n/a	896.0	74.0	-71.2	n/a	124.7	n/a	35	211.5	50	211	n/a	300	300	n/a
XRS-0008	RH	XRS-0016	LH	689.5	476.1	896.0	74.0	-28.3	59.5	124.7	133	35	211.5	50	211	n/a	600	300	100

Catalog 8092/USA
 Square Rail Linear Tables

High Precision

XR Cartesian Systems - Medium Platform

- For mid range loads and travels
- Max. X-Y work area: 1000mm X 600 mm
- Maximum load: 12 kg



Specifications

System No.	Style	System No.	Style	Max. Load (kg)	Work Envelope (mm)			Velocity (mm/s.)			Resolution (µm)			Repeatability** (µm)		
					X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
XRS-0017	RH	XRS-0053	LH	12	600	400	n/a	500	600	n/a	2.5	2.5	n/a	45	7	n/a
XRS-0018	RH	XRS-0054	LH	5	600	400	100	500	600	140	2.5	2.5	0.5	45	7	10
XRS-0019	RH	XRS-0055	LH	12	600	400	150	500	600	600	2.5	2.5	2.5	45	7	6
XRS-0020*	RH	XRS-0056*	LH	12	600	400	150	500	600	600	2.5	2.5	2.5	45	7	6
XRS-0021	RH	XRS-0057	LH	12	600	600	n/a	500	500	n/a	2.5	2.5	n/a	45	7	n/a
XRS-0022	RH	XRS-0058	LH	5	600	600	100	500	500	140	2.5	2.5	0.5	45	7	10
XRS-0023	RH	XRS-0059	LH	12	600	600	150	500	500	600	2.5	2.5	2.5	45	7	6
XRS-0024*	RH	XRS-0060*	LH	12	600	600	150	500	500	600	2.5	2.5	2.5	45	7	6
XRS-0025	RH	XRS-0061	LH	12	1000	600	n/a	350	500	n/a	2.5	2.5	n/a	45	7	n/a
XRS-0026	RH	XRS-0062	LH	5	1000	600	100	350	500	140	2.5	2.5	0.5	45	7	10
XRS-0027	RH	XRS-0063	LH	12	1000	600	150	350	500	600	2.5	2.5	2.5	45	7	6
XRS-0028*	RH	XRS-0064*	LH	12	1000	600	150	350	500	600	2.5	2.5	2.5	45	7	6
XRS-0029	RH	XRS-0065	LH	12	600	400	n/a	500	2000	n/a	2.5	1	n/a	45	5	n/a
XRS-0030	RH	XRS-0066	LH	5	600	400	100	500	2000	140	2.5	1	0.5	45	5	10
XRS-0031	RH	XRS-0067	LH	12	600	400	150	500	2000	600	2.5	1	2.5	45	5	6
XRS-0032*	RH	XRS-0068*	LH	12	600	400	150	500	2000	600	2.5	1	2.5	45	5	6
XRS-0033	RH	XRS-0069	LH	12	600	600	n/a	500	2000	n/a	2.5	1	n/a	45	5	n/a
XRS-0034	RH	XRS-0070	LH	5	600	600	100	500	2000	140	2.5	1	0.5	45	5	10
XRS-0035	RH	XRS-0071	LH	12	600	600	150	500	2000	600	2.5	1	2.5	45	5	6
XRS-0036*	RH	XRS-0072*	LH	12	600	600	150	500	2000	600	2.5	1	2.5	45	5	6
XRS-0037	RH	XRS-0073	LH	12	1000	600	n/a	350	2000	n/a	2.5	1	n/a	45	5	n/a
XRS-0038	RH	XRS-0074	LH	5	1000	600	100	350	2000	140	2.5	1	0.5	45	5	10
XRS-0039	RH	XRS-0075	LH	12	1000	600	150	350	2000	600	2.5	1	2.5	45	5	6
XRS-0040*	RH	XRS-0076*	LH	12	1000	600	150	350	2000	600	2.5	1	2.5	45	5	6
XRS-0041	RH	XRS-0077	LH	12	650	400	n/a	2000	2000	n/a	1	1	n/a	45	5	n/a
XRS-0042	RH	XRS-0078	LH	5	650	400	100	2000	2000	140	1	1	0.5	45	5	10
XRS-0043	RH	XRS-0079	LH	12	650	400	150	2000	2000	600	1	1	2.5	45	5	6
XRS-0044*	RH	XRS-0080*	LH	12	650	400	150	2000	2000	600	1	1	2.5	45	5	6
XRS-0045	RH	XRS-0081	LH	12	650	600	n/a	2000	2000	n/a	1	1	n/a	45	5	n/a
XRS-0046	RH	XRS-0082	LH	5	650	600	100	2000	2000	140	1	1	0.5	45	5	10
XRS-0047	RH	XRS-0083	LH	12	650	600	150	2000	2000	600	1	1	2.5	45	5	6
XRS-0048*	RH	XRS-0084*	LH	12	650	600	150	2000	2000	600	1	1	2.5	45	5	6
XRS-0049	RH	XRS-0085	LH	12	850	600	n/a	2000	2000	n/a	1	1	n/a	45	5	n/a
XRS-0050	RH	XRS-0086	LH	5	850	600	100	2000	2000	140	1	1	0.5	45	5	10
XRS-0051	RH	XRS-0087	LH	12	850	600	150	2000	2000	600	1	1	2.5	45	5	6
XRS-0052*	RH	XRS-0088*	LH	12	850	600	150	2000	2000	600	1	1	2.5	45	5	6

* Models indicated have the Z-axis mounted to the Y-axis "carriage to carriage", hence the Z-axis will extend & retract vertically. The F dimension is established when the Z-axis is at the top of the stroke.
 ** Repeatability is established at maximum load - fully extended stroke.

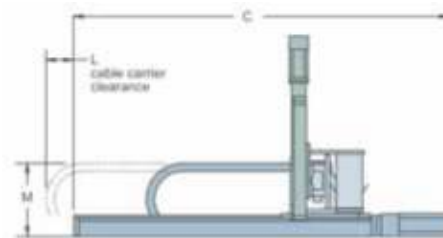
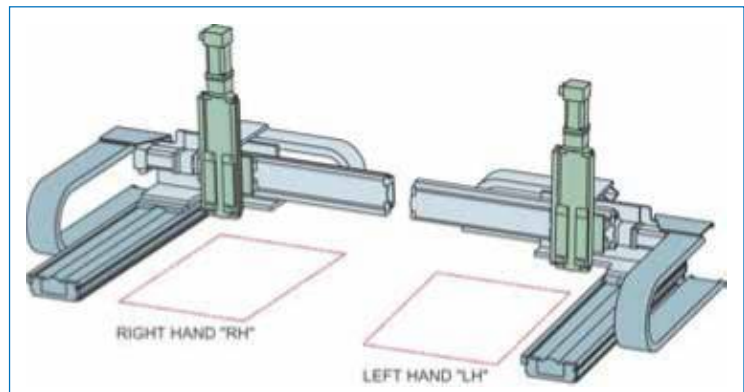
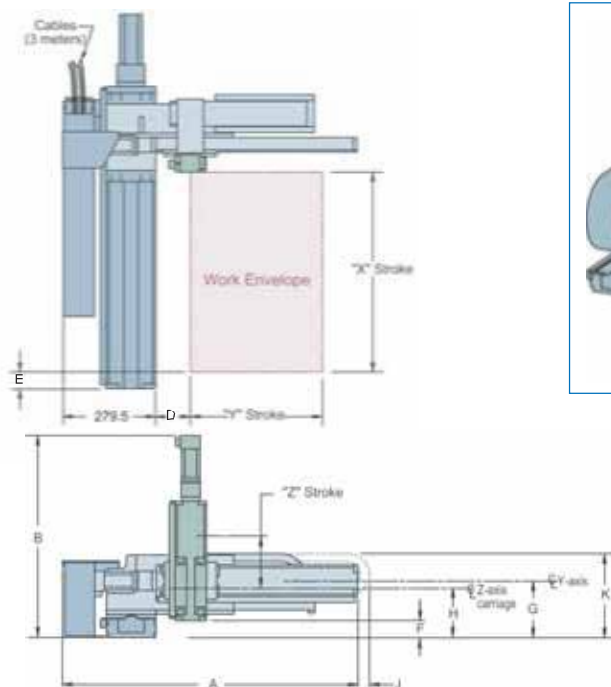
Linear Motor driven actuator
 Ballscrew driven actuator

Recommended Parker Servo Drive: X axis: AR-04_E Y axis: AR-02_E Z axis: AR-02_E

Catalog 8092/USA
Square Rail Linear Tables

High Precision

Dimensions - Medium Platform



Screw Driven Tables

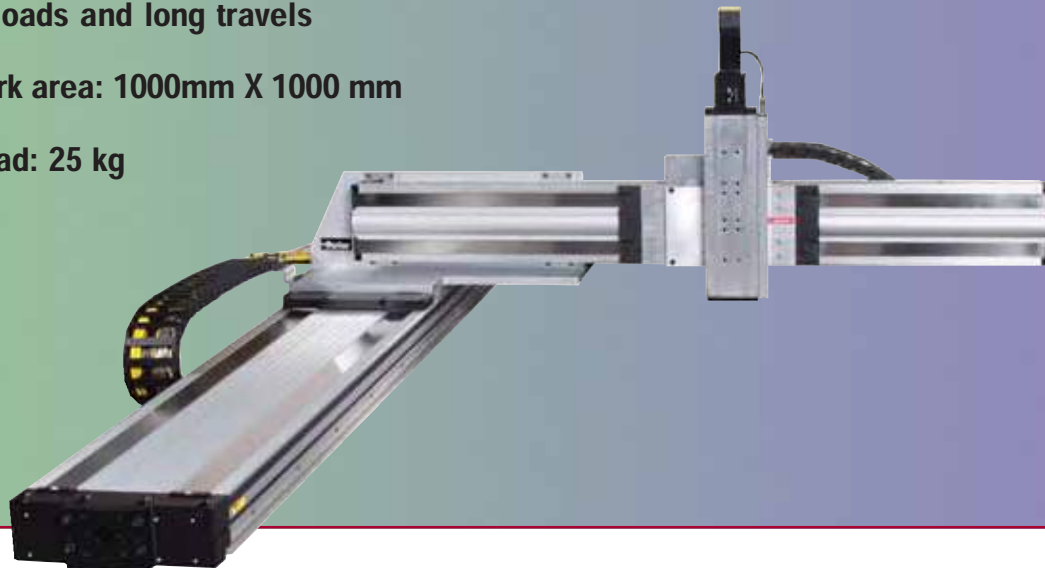
System	System	A	B	C	D	E	F	G	H	J	K	L	M	X	Y	Z
XRS-0017 RH	XRS-0053 LH	892.5	n/a	1127.5	105	-99.0	n/a	170.1	n/a	60	261	80	225	600	400	n/a
XRS-0018 RH	XRS-0054 LH	892.5	530.8	1127.5	105	-56.0	82.6	170.1	156	60	261	80	225	600	400	100
XRS-0019 RH	XRS-0055 LH	892.5	646	1127.5	105	-51.7	64.1	170.1	170	60	261	80	225	600	400	150
XRS-0020 *RH	XRS-0056 *LH	892.5	646	1127.5	105	-51.7	64.6*	170.1	170	60	261	80	225	600	400	150
XRS-0021 RH	XRS-0057 LH	1092.5	n/a	1127.5	105	-99.0	n/a	170.1	n/a	60	261	80	225	600	600	n/a
XRS-0022 RH	XRS-0058 LH	1092.5	530.8	1127.5	105	-56.0	82.6	170.1	156	60	261	80	225	600	600	100
XRS-0023 RH	XRS-0059 LH	1092.5	646	1127.5	105	-51.7	64.1	170.1	170	60	261	80	225	600	600	150
XRS-0024 *RH	XRS-0060 *LH	1092.5	646	1127.5	105	-51.7	64.6*	170.1	170	60	261	80	225	600	600	150
XRS-0025 RH	XRS-0061 LH	1092.5	n/a	1527.5	105	-99.0	n/a	170.1	n/a	60	261	80	225	1000	600	n/a
XRS-0026 RH	XRS-0062 LH	1092.5	530.8	1527.5	105	-56.0	82.6	170.1	156	60	261	80	225	1000	600	100
XRS-0027 RH	XRS-0063 LH	1092.5	646	1527.5	105	-51.7	64.1	170.1	170	60	261	80	225	1000	600	150
XRS-0028 *RH	XRS-0064 *LH	1092.5	646	1527.5	105	-51.7	64.6*	170.1	170	60	261	80	225	1000	600	150
XRS-0029 RH	XRS-0065 LH	934.5	n/a	1127.5	105	-86.3	n/a	170.1	n/a	30	281	80	225	600	400	n/a
XRS-0030 RH	XRS-0066 LH	934.5	530.8	1127.5	105	-43.4	82.6	170.1	156	30	281	80	225	600	400	100
XRS-0031 RH	XRS-0067 LH	934.5	646	1127.5	105	-39.0	64.1	170.1	170	30	281	80	225	600	400	150
XRS-0032 *RH	XRS-0068 *LH	934.5	646	1127.5	105	-39.0	64.6*	170.1	170	30	281	80	225	600	400	150
XRS-0033 RH	XRS-0069 LH	1134.5	n/a	1127.5	105	-86.3	n/a	170.1	n/a	30	281	80	225	600	600	n/a
XRS-0034 RH	XRS-0070 LH	1134.5	530.8	1127.5	105	-43.4	82.6	170.1	156	30	281	80	225	600	600	100
XRS-0035 RH	XRS-0071 LH	1134.5	646	1127.5	105	-39.0	64.1	170.1	170	30	281	80	225	600	600	150
XRS-0036 *RH	XRS-0072 *LH	1134.5	646	1127.5	105	-39.0	64.6*	170.1	170	30	281	80	225	600	600	150
XRS-0037 RH	XRS-0073 LH	1134.5	n/a	1527.5	105	-86.3	n/a	170.1	n/a	30	281	80	225	1000	600	n/a
XRS-0038 RH	XRS-0074 LH	1134.5	530.8	1527.5	105	-43.4	82.6	170.1	156	30	281	80	225	1000	600	100
XRS-0039 RH	XRS-0075 LH	1134.5	646	1527.5	105	-39.0	64.1	170.1	170	30	281	80	225	1000	600	150
XRS-0040 *RH	XRS-0076 *LH	1134.5	646	1527.5	105	-39.0	64.6*	170.1	170	30	281	80	225	1000	600	150
XRS-0041 RH	XRS-0077 LH	934.5	n/a	1117.6	105	-158.3	n/a	170.1	n/a	30	281	35	225	650	400	n/a
XRS-0042 RH	XRS-0078 LH	934.5	530.8	1117.6	105	-115.3	82.6	170.1	156	30	281	35	225	650	400	100
XRS-0043 RH	XRS-0079 LH	934.5	646	1117.6	105	-111.0	64.1	170.1	170	30	281	35	225	650	400	150
XRS-0044 *RH	XRS-0080 *LH	934.5	646	1117.6	105	-111.0	64.6*	170.1	170	30	281	35	225	650	400	150
XRS-0045 RH	XRS-0081 LH	1134.5	n/a	1117.6	105	-158.3	n/a	170.1	n/a	30	281	35	225	650	600	n/a
XRS-0046 RH	XRS-0082 LH	1134.5	530.8	1117.6	105	-115.3	82.6	170.1	156	30	281	35	225	650	600	100
XRS-0047 RH	XRS-0083 LH	1134.5	646	1117.6	105	-111.0	64.1	170.1	170	30	281	35	225	650	600	150
XRS-0048 *RH	XRS-0084 *LH	1134.5	646	1117.6	105	-111.0	64.6*	170.1	170	30	281	35	225	650	600	150
XRS-0049 RH	XRS-0085 LH	1134.5	n/a	1317.6	105	-158.3	n/a	170.1	n/a	30	281	35	225	850	600	n/a
XRS-0050 RH	XRS-0086 LH	1134.5	530.8	1317.6	105	-115.3	82.6	170.1	156	30	281	35	225	850	600	100
XRS-0051 RH	XRS-0087 LH	1134.5	646	1317.6	105	-111.0	64.1	170.1	170	30	281	35	225	850	600	150
XRS-0052 *RH	XRS-0088 *LH	1134.5	646	1317.6	105	-111.0	64.6*	170.1	170	30	281	35	225	850	600	150

Catalog 8092/USA
Square Rail Linear Tables

High Precision

XRS Cartesian Systems - Large Platform

- For heavier loads and long travels
- Max. X-Y work area: 1000mm X 1000 mm
- Maximum load: 25 kg



Specifications

System No.	Style	System No.	Style	Max. Load (kg)	Work Envelope (mm)			Velocity (mm/s.)			Resolution (µm)			Repeatability** (µm)		
					X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
XRS-0089	RH	XRS-0107	LH	25	650	600	n/a	470	500	n/a	2.5	2.5	n/a	50	7	n/a
XRS-0090	RH	XRS-0108	LH	25	650	600	150	470	500	600	2.5	2.5	2.5	50	7	6
XRS-0091*	RH	XRS-0109*	LH	25	650	600	150	470	500	600	2.5	2.5	2.5	50	7	6
XRS-0092	RH	XRS-0110	LH	25	1000	600	n/a	450	500	n/a	2.5	2.5	n/a	50	7	n/a
XRS-0093	RH	XRS-0111	LH	25	1000	600	150	450	500	600	2.5	2.5	2.5	50	7	6
XRS-0094*	RH	XRS-0112*	LH	25	1000	600	150	450	500	600	2.5	2.5	2.5	50	7	6
XRS-0095	RH	XRS-0113	LH	25	1000	1000	n/a	450	350	n/a	2.5	2.5	n/a	50	7	n/a
XRS-0096	RH	XRS-0114	LH	25	1000	1000	150	450	350	600	2.5	2.5	2.5	50	7	6
XRS-0097*	RH	XRS-0115*	LH	25	1000	1000	150	450	350	600	2.5	2.5	2.5	50	7	6
XRS-0098	RH	XRS-0116	LH	25	650	650	n/a	2000	2000	n/a	1	1	n/a	50	7	n/a
XRS-0099	RH	XRS-0117	LH	25	650	650	150	2000	2000	600	1	1	2.5	50	7	6
XRS-0100*	RH	XRS-0118*	LH	25	650	650	150	2000	2000	600	1	1	2.5	50	7	6
XRS-0101	RH	XRS-0119	LH	25	1000	650	n/a	2000	2000	n/a	1	1	n/a	50	7	n/a
XRS-0102	RH	XRS-0120	LH	25	1000	650	150	2000	2000	600	1	1	2.5	50	7	6
XRS-0103*	RH	XRS-0121*	LH	25	1000	650	150	2000	2000	600	1	1	2.5	50	7	6
XRS-0104	RH	XRS-0122	LH	25	1000	850	n/a	2000	2000	n/a	1	1	n/a	50	7	n/a
XRS-0105	RH	XRS-0123	LH	25	1000	850	150	2000	2000	600	1	1	2.5	50	7	6
XRS-0106*	RH	XRS-0124*	LH	25	1000	850	150	2000	2000	600	1	1	2.5	50	7	6

* Models indicated have the Z-axis mounted to the Y-axis "carriage to carriage", hence the Z-axis will extend & retract vertically. The F dimension is established when the Z- axis is at the top of the stroke.

**Repeatability is established at maximum load - fully extended stroke.

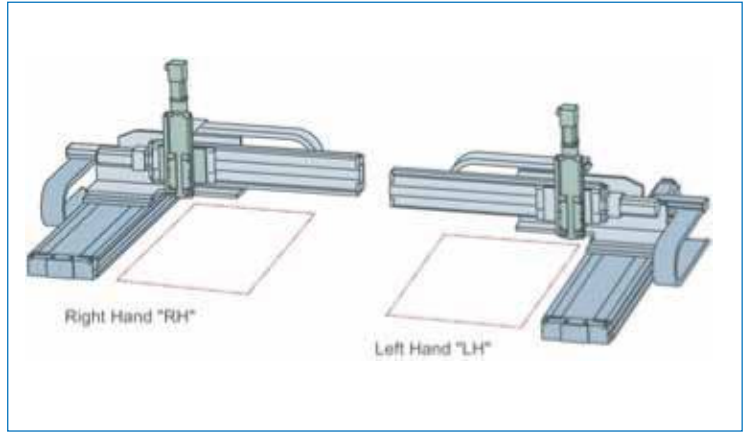
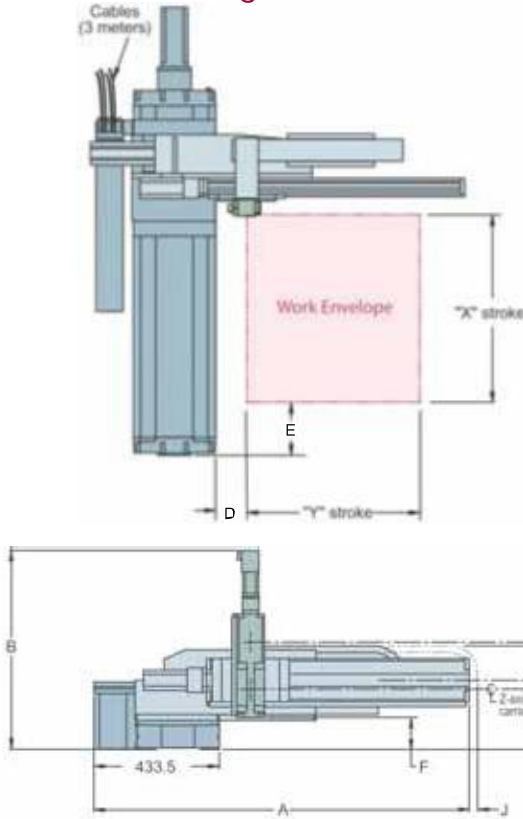
 Linear Motor driven actuator
 Ballscrew driven actuator

Recommended Parker Servo Drive: X axis: AR-08_E Y axis: AR-04_E Z axis: AR-02_E

Catalog 8092/USA
Square Rail Linear Tables

High Precision

Dimensions - Large Platform



Screw Driven Tables

System	System	A	B	C	D	E	F	G	H	J	K	L	X	Y	Z
XRS-0089	RH XRS-0107 LH	1299.0	n/a	1553.5	108.5	-222.3	n/a	239.9	n/a	80	389.9	0	650	600	n/a
XRS-0090	RH XRS-0108 LH	1299.0	690.3	1553.5	108.5	-175.0	108.9	239.9	214.9	80	389.9	0	650	600	150
XRS-0091*	RH XRS-0109* LH	1299.0	715.3	1553.5	108.5	-175.0	133.9*	239.9	239.9	80	389.9	0	650	600	150
XRS-0092	RH XRS-0110 LH	1299.0	n/a	1553.5	108.5	-222.3	n/a	239.9	n/a	80	389.9	0	1000	600	n/a
XRS-0093	RH XRS-0111 LH	1299.0	690.3	1553.5	108.5	-175.0	108.9	239.9	214.9	80	389.9	0	1000	600	150
XRS-0094*	RH XRS-0112* LH	1299.0	715.3	1553.5	108.5	-175.0	133.9*	239.9	239.9	80	389.9	0	1000	600	150
XRS-0095	RH XRS-0113 LH	1699.0	n/a	1903.5	108.5	-222.3	n/a	239.9	n/a	80	389.9	0	1000	1000	n/a
XRS-0096	RH XRS-0114 LH	1699.0	690.3	1903.5	108.5	-175.0	108.9	239.9	214.9	80	389.9	0	1000	1000	150
XRS-0097*	RH XRS-0115* LH	1699.0	715.3	1903.5	108.5	-175.0	133.9*	239.9	239.9	80	389.9	0	1000	1000	150
XRS-0098	RH XRS-0116 LH	1392.5	n/a	1264.0	100.0	-222.3	n/a	239.9	n/a	80	389.9	0	650	650	n/a
XRS-0099	RH XRS-0117 LH	1392.5	690.3	1264.0	100.0	-175.0	108.9	239.9	214.9	80	389.9	0	650	650	150
XRS-0100*	RH XRS-0118* LH	1392.5	715.3	1264.0	100.0	-175.0	133.9*	239.9	239.9	80	389.9	0	650	650	150
XRS-0101	RH XRS-0119 LH	1392.5	n/a	1264.0	100.0	-222.3	n/a	239.9	n/a	80	389.9	0	1000	650	n/a
XRS-0102	RH XRS-0120 LH	1392.5	690.3	1264.0	100.0	-175.0	108.9	239.9	214.9	80	389.9	0	1000	650	150
XRS-0103*	RH XRS-0121* LH	1392.5	715.3	1264.0	100.0	-175.0	133.9*	239.9	239.9	80	389.9	0	1000	650	150
XRS-0104	RH XRS-0122 LH	1592.5	n/a	1614.0	100.0	-222.3	n/a	239.9	n/a	80	389.9	0	1000	850	n/a
XRS-0105	RH XRS-0123 LH	1592.5	690.3	1614.0	100.0	-175.0	108.9	239.9	214.9	80	389.9	0	1000	850	150
XRS-0106*	RH XRS-0124* LH	1592.5	715.3	1614.0	100.0	-175.0	133.9*	239.9	239.9	80	389.9	0	1000	850	150

* Models indicated have the Z-axis mounted to the Y-axis "carriage to carriage", hence the Z-axis will extend & retract vertically. The F dimension is established when the Z-axis is at the top of the stroke.
** Repeatability is established at maximum load - fully extended stroke.