

SRA Screw Rail® Linear Actuators

- Coaxial Screw and Rail Guides
- Recommended anywhere low drag and minimal free play is required

Traditionally, linear motion has required separate components to handle drive, support and guidance. The compact Screw Rail combines all functions in a single, coaxial component.

By eliminating the need for external rail-to-screw alignment, the Screw Rail simplifies the design, manufacture and assembly of motion systems. The coaxial design saves as much as 80% of the space used by a two-rail system and is generally less expensive than the equivalent components purchased separately. An added benefit is the ability to get three-dimensional motion from a single Screw Rail.

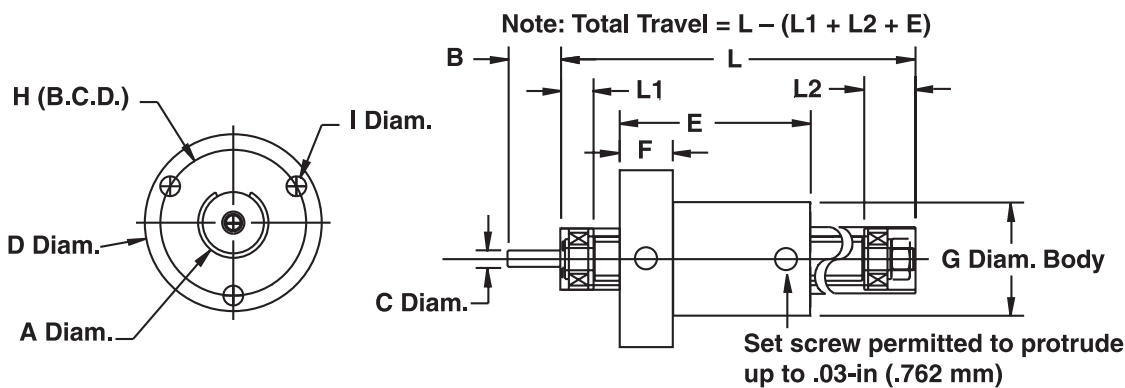


Identifying SRA Screw Rail Part Numbers when Ordering

SR	A	03	K	A	0100	XXX
Prefix SR = Screw Rail	Nut Style A = Freewheeling	Nominal Rail Diam. 03 = 3/8-in (10 mm) 04* = 1/2-in (13 mm) 06* = 3/4-in (19 mm) 08* = 1-in (25 mm)	Coating S = Uncoated K = Kerkote®	Drive / Mounting A = None	Nominal Thread Lead Code 0050 = .05 -in (1.27) SRA03, SRA04 0100 = .100-in (2.54) SRA03, SRA06, SRA08 0200 = .200-in (5.08) SRA06, SRA08 0250 = .250-in (6.35) SRA03, SRA04 0375 = .375-in (9.53) SRA03 0500 = .500-in (12.70) SRA04, SRA06, SRA08 1000 = 1.00-in (25.4) SRA04, SRA06, SRA08	Unique Identifier Suffix used to identify specific motors or a proprietary suffix assigned to a specific customer application. The identifier can apply to either a standard or custom part.

NOTE: Dashes must be included in Part Number (–) as shown above. For assistance call our Engineering Team at 603 213 6290. Right-hand and left-hand assemblies available. *End supports available, see page 2.

Dimensional Drawings



Assembly Option



When mounted vertically, the Screw Rail can be used to simultaneously lift and rotate (Z-theta motion). With one motor driving the screw and a second rotating the rail, a compact, self-supporting pick and place mechanism can be created.

Part No.	A Diam.	B	C Diam.	D Diam.	E	F	G Diam.	H (B, C, D)	I	L1	L2	
SRA03	inch	.364/.367	.38	.1245/.1250	.98	1.0	.28	.562	.75	.094	.37	.38
	mm	9.24/9.32	9.56	3.16/3.18	24.9	25.4	7.2	14.3	19.1	2.39	9.4	9.66
SRA04	inch	.489/.492	0.62	.1870/.1875	1.25	1.4	.38	.750	1.03	0.140	0.26	0.36
	mm	12.42/12.5	15.75	4.75/4.76	31.8	36	9.5	19.1	26.2	3.56	6.6	9.1
SRA06	inch	.739/.742	0.75	.2490/.2495	1.75	2.0	.50	1.120	1.48	0.173	0.38	0.70
	mm	18.77/18.85	19.05	6.33/6.34	44.5	51	12.7	28.4	37.6	4.39	9.7	17.8
SRA08	inch	.989/.992	0.75	.2490/.2495	2.23	2.5	.63	1.495	1.92	0.200	0.48	0.77
	mm	25.12/25.2	19.05	6.33/6.34	56.6	64	15.9	38.0	48.8	5.08	12.2	19.6

Metric available as requested.

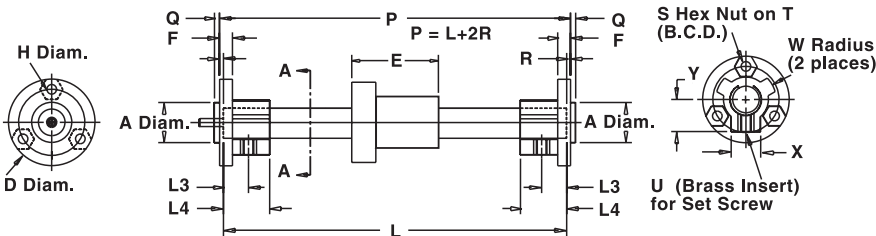
Part No.	Inch Lead**		Thread Lead Code	Nominal Rail Diam.		Nominal Screw Diam.		Max Drag Torque		Life @ 1/4 Design Load x 10 ⁶ (Non Anti-Backlash)		Torque-to-Move Lead		Design Load		Screw inertia per Unit Length		Equivalent Diam*	
	inch	mm		inch	mm	inch	mm	oz-in	NM	inch	cm	oz-in/lb	NM/Kg	lbs	NM	oz-in sec ² /in	KgM ² /M	inch	mm
SRA03	.050	1.27	0050	3/8	10	3/16	5	1.5	0.014	100 to 150	250 to 380	0.5	0.007	10	4.5	.1 x 10 ⁻⁵	.4 x 10 ⁻⁶	30	7.6
	.100	2.54	0100					2.0	0.018			1.0	0.016						
	.250	6.35	0250					2.5	0.020			1.25	0.019						
	.375	9.53	0375					3.0	0.025			2.0	0.030						
SRA04	.050	1.27	0050	1/2	13	1/4	6	2.0	0.015	150 to 200	380 to 500	0.5	0.007	25	10	.3 x 10 ⁻⁵	1.3 x 10 ⁻⁶	.39	9.9
	.250	6.35	0250					3.0	0.020			1.5	0.023						
	.500	12.7	0500					4.0	0.030			2.5	0.039						
	1.00	25.40	1000					5.0	0.040			4.5	.070						
SRA06	.100	2.54	0100	3/4	19	3/8	10	3.0	0.020	180 to 280	450 to 710	1.0	0.016	50	20	1.5 x 10 ⁻⁵	6.5 x 10 ⁻⁶	.60	15.2
	.200	5.08	0200					4.0	0.030			1.5	0.023						
	.500	12.7	0500					5.0	0.040			2.5	0.039						
	1.00	25.40	1000					6.0	0.045			4.5	0.070						
SRA08	.100	2.54	0100	1	25	1/2	13	4.0	0.030	280 to 320	710 to 810	1.0	0.016	100	45	5.2 x 10 ⁻⁵	20.0 x 10 ⁻⁶	.81	20.5
	.200	5.08	0200					5.0	0.040			1.5	0.023						
	.500	12.7	0500					6.0	0.045			2.5	0.039						
	1.00	25.40	1000					8.0	0.060			4.5	0.070						

*Screw Rail stiffness may be modeled using Classical Beam Deflection Theory with equivalent stainless steel beam of diameter given.
 **Other leads available as custom orders.

Screw Rail® End Supports

- Optional accessory providing convenience of simple and compact mounting
- End Supports slide over the outside diameter of each rail end and “key” off the slot in the Screw Rail

Kerkite® composite polymer End Supports come standard with three hex nuts that are captured in the flange for easy assembly. Also supplied with a brass threaded insert and a set screw to fasten to the outside diameter of the rail.



Dimensions E and L are referenced in the ScrewRail Dimensions VIEW AA
 Note: Total Travel = L - (E + 2 [L4])

Identifying Screw Rail End Support Part Numbers when Ordering

SR	04	ES	Z00
Prefix	Nominal Size Diameter	Accessory	Identifier
SR = Screw Rail	04 = 1/2-in (13 mm) 06 = 3/4-in (19 mm) 08 = 1-in (25 mm)	ES = End Support	Standard

NOTE: Dashes must be included in Part Number (-) as shown above.
 For assistance call our Engineering Team at 603 213 6290.

	A Diam. inch (mm)	D inch (mm)	F inch (mm)	H Diam. inch (mm)	L3 inch (mm)	L4 inch (mm)	Q inch (mm)	R inch (mm)	S inch	T inch (mm)	U inch	W Diam. Brass Insert Inch (mm)	X inch (mm)	Y inch (mm)
SRA04	.624/.626 (15.85/15.90)	1.35 (34.3)	0.200 (5.08)	0.150 (3.81)	0.390 (9.91)	.720 (18.29)	0.080 (2.03)	0.060 (1.52)	#6-32	1.03 (26.2)	#8-32	0.47 (12.0)	0.460 (11.68)	0.500 (12.70)
SRA06	.749/.751 (19.03/19.08)	1.60 (40.6)	0.250 (6.35)	0.173 (4.39)	0.603 (15.32)	0.900 (22.86)	0.100 (2.54)	0.100 (2.54)	#8-32	1.31 (33.3)	#10-32	0.60 (15.3)	0.594 (15.09)	0.645 (16.38)
SRA08	.999/1.001 (25.38/25.43)	2.20 (55.9)	0.375 (9.53)	0.200 (5.08)	0.920 (23.37)	1.200 (30.48)	0.125 (3.18)	0.175 (4.45)	#10-32	1.82 (46.2)	#10-32	0.82 (20.9)	0.800 (20.32)	0.820 (20.83)

*Metric carriage hole sizes available M3, M4, M5, M6.