

## Linear Guide Elements

Spline Shafts and Guide Rails deliver low-cost, low friction and long life for a variety of linear motion control applications.

KERK® SS and SZ Spline shafts are available in stainless steel and can be coated with our proprietary Kerkote® TFE or Black Ice® coatings. Spline Shafts provide anti-rotation for one axis motion or a drive mechanism with rotation for two axes of motion. The bushing is supplied with an integral brass collar to facilitate various mounting configurations without nut distortion.

KERK GR Guide Rail is the perfect choice for light load applications requiring minimal frictional drag, low cost and long wear. It features a burnished, centerless ground stainless steel shaft (available either uncoated or with Kerkote® TFE for additional lubricity) and a graphite and PTFE-filled thermoplastic bushing.

Non-Motorized

Spline Shafts, Guide Rails and Bushings



### SS and SZ Series Spline Shafts

The Kerk® Spline Shaft (SS/SZ) series spline shaft system has been designed for light to moderate load applications, where low cost, low friction, and long life are primary design considerations. Kerk Spline Shafts provide anti-rotation for one axis motion or a drive mechanism with rotation for two axes of motion. They are excellent alternatives for applications where hex shafts, square shafts and high-cost ball splines are typically used. The assembly consists of a stainless steel spline shaft treated with Haydon Kerk Motion Solutions, Inc. proprietary low friction Kerkote® TFE coating, mated with a Kerkite® composite polymer bushing. The bushing is supplied with an integral brass collar to facilitate various mounting configurations without nut distortion. Standard shaft straightness is .003-in (.08mm/30cm) per foot. Typical radial and torsional clearance between shaft and bushing for a basic assembly (SSA) is .002-in to .003-in (.05-.08mm). An anti-backlash assembly (SZA) is available for applications requiring minimum torsional play. As with other Kerk assemblies, special bushing configurations and end machining configurations are available upon request. Aluminum or carbon steel spline shafts are also available upon request.



### GR Series Linear Rails and Bushings

The GR Series Linear rail system has been designed for light load applications where low cost, minimum frictional drag and long wear life are primary design considerations. The assembly consists of a centerless ground and burnished stainless steel shaft mated with a Kerkite® composite polymer bushing. The material combinations have been selected so that thermal fluctuations have minimal effect on system performance. Additional lubricity and extended life can be obtained by using a low friction Kerkote® TFE coating on support shafts available in both stainless and alloy steel. Standard shaft straightness is .002-in (0.05mm) per foot and typical radial clearance between shaft and bushing is .0005-in (.013mm) on non-coated assemblies and .001-in (.025mm) on Kerkote TFE coated assemblies. Bushings are manufactured with standard retaining ring grooves.

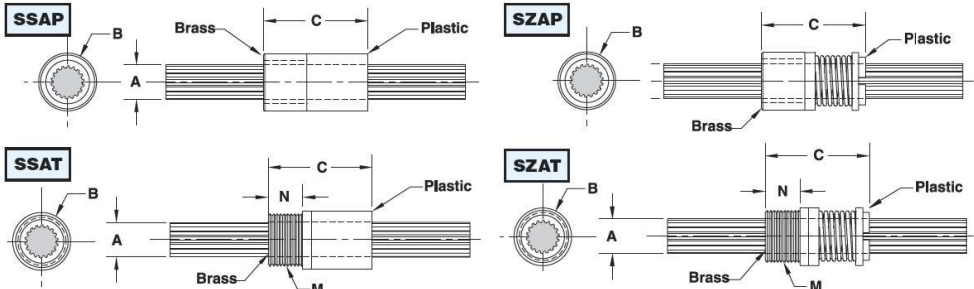
#### Identifying the Spline Shafts and Guide Rails Part Number Codes when Ordering

SZ	A	P	04	1	K	08	XXX
Prefix	Nut Style	Mounting	Rail Diameter	Number of Bushings per Rail	Lubrication	Length in Inches (Rounded up)	Unique Identifier
SS = Spline Shaft	A = Assembly B = Bushing only	T = Threaded (for Spline Shafts only)	02 = 1/8-in 04 = 1/4-in	0 1	S = Uncoated K = Kerkote®	Example: 06 = 6-in	Proprietary suffix assigned to a specific customer application. The identifier can apply to either a standard or custom part.
SZ = Anti-Backlash Spline Shaft	S = Shaft only	G = Snap ring groove (for Guide Rails only)	06 = 3/8-in 08 = 1/2-in	2 3	B = Black Ice™ N = Bushing only	08 = 8-in 00 = Bushing only	
GR = Guide Rail		P = Plain (no features) S = Shaft only X = Custom	12 = 3/4-in	4 5			

Use "0" for Shaft only and "1" if Bushing only

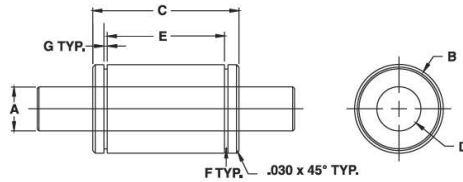
NOTE: Dashes must be included in Part Number (-) as shown above. For assistance call our Engineering Team at 603 213 6290.

SRA Series Standard ScrewRail Linear Actuators



Rail Diameter Code	Shaft	Root Diameter	Tube I.D.	Bushing Diameter	Bushing Length	Thread	Thread Length	Equivalent Diameter**	
	A in ± .002 (mm ± 0.05)	A in ± .002 (mm ± 0.05)	A in ± .002 (mm ± 0.05)	B in ± .001 (mm ± 0.025)	C in ± .01 (mm ± 0.25)	M	N in ± .002 (mm ± 0.05)	inch (mm)	
SS/SZ	02	0.125 (3.18)	0.095 (2.41)	NA	0.375 (9.53)	0.500 (12.70)	3/8-24	0.250 (6.35)	0.110 (2.79)
	04	0.250 (6.35)	0.202 (5.13)	NA	0.500 (12.70)	0.75 (19.1)	7/16-20	0.250 (6.35)	0.226 (5.74)
	06	0.375 (9.53)	0.306 (7.77)	NA	0.625 (15.88)	1.00 (25.4)	9/16-20	0.375 (9.53)	0.341 (8.65)
	08	0.500 (12.70)	0.419 (10.64)	NA	0.813 (20.65)	1.50 (38.1)	3/4-20	0.500 (12.70)	0.458 (11.63)
	12	0.750 (19.05)	0.630 (16.00)	NA	1.125 (28.58)	2.25 (57.2)	1-16	0.750 (19.05)	0.690 (17.53)

GR Series Linear Rails and Bushings



Rail Diameter Code	Standard Part Lengths	Rail Diameter	Rail Diameter w/TFE	Bushing Outside Diam.	Bushing Length	Bushing Inside Diam.	Snap Ring Groove Location E	Snap Ring Groove Diam. F	Snap Ring Groove Width G	Rail Chamfer H	Radial Load
	A in ± .010 (mm ± 0.25)	A in ± .0006 (mm ± 0.015)	A in ± .0006 (mm ± 0.015)	B in ± .0006 (mm ± 0.015)	C in ± .010 (mm ± 0.25)	D in ± .0005 (mm ± 0.013)	E in +.010 -.000 (mm +.025 -.000)	F in ± .004 (mm ± 0.100)	G in ± .0003 (mm ± 0.008)	H in (mm)	lbs (Kg)
GR	6/8 10/12	.2475 (6.287)	.2472 (6.279)	.5000 (12.700)	.765 (19.43)	.2485 (6.311)	.535 (13.59)	.450 (11.43)	.040 (1.02)	.020 (.51)	5 (2.3)
	6/12 15/18	.3715 (9.436)	.3712 (9.428)	.7500 (19.050)	1.275 (32.39)	.3725 (9.462)	.995 (25.27)	.676 (17.17)	.046 (1.17)	.020 (.51)	10 (4.5)
	12/15 18/24	.4965 (12.611)	.4962 (12.603)	1.0000 (25.400)	1.660 (42.16)	.4975 (12.637)	1.330 (33.78)	.900 (22.86)	.046 (1.17)	.020 (.51)	15 (6.8)
	18/24 36	.7415 (18.834)	.7412 (18.826)	1.2500 (31.750)	2.036 (51.72)	.7425 (18.860)	1.620 (41.15)	1.125 (28.60)	.058 (1.47)	.030 (.76)	25 (11.4)