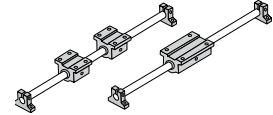


## RoundRail Linear Guides

# End Support 1BA

## End Supported, Industry Standard Dimension Inch



### Features

- Requires only one part number to specify entire linear guide.
- Available with 60 Case LinearRace Shaft end support blocks in either light weight aluminum or rigid iron materials
- Used to provide increased stability or torque resistance in linear system applications

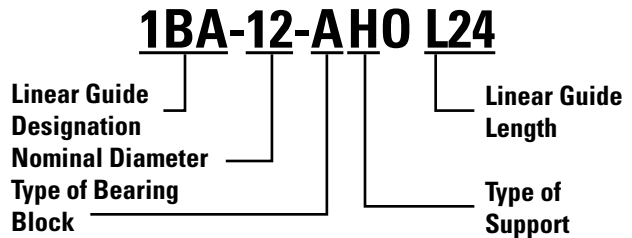
### Components

- 2 Super Smart Ball Bushing pillow blocks or 1 Super Smart Ball Bushing twin pillow block.
- 1 60 Case LinearRace shaft
- 2 shaft end support blocks

### Specifying this Thomson Linear Guide

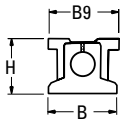
1. Determine the proper Linear Guide for your load and life requirements.
2. Select the part number.
3. Add the letter "L" followed by the overall length in inches, as a suffix to the part number.

### Part Numbering System

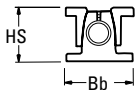


### Dimensions (Inch)

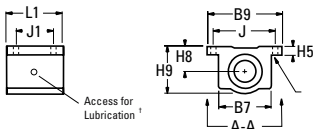
#### Type ASB End Support Block



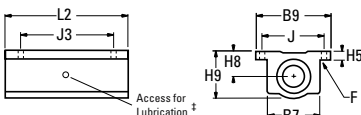
#### Type SB End Support Block



#### Type SSUPB Super Smart and SPB Super Ball Bushing Pillow Blocks

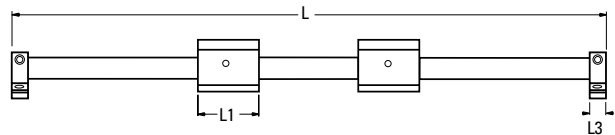


#### Type SSUTWN Super Smart and TWN Super Ball Bushing Twin Pillow Blocks

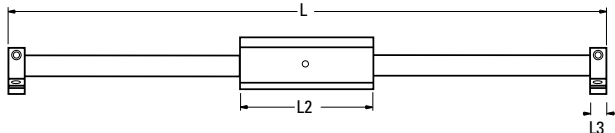


† Sizes .250, .375 and .500 have oil lubricant fitting. Sizes .625 and above have 1/4-28 access for lubrication.

#### Single End Supported Linear Guide with 2 Pillow Blocks

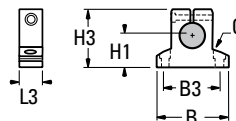


#### Single End Supported Linear Guide with 1 Twin Pillow Block



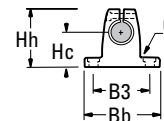
### Aluminum

#### Type ASB LinearRace Shaft End Support Block

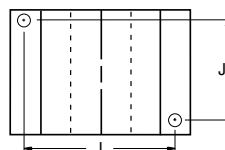


### Steel

#### Type SB LinearRace Shaft End Support Block



#### Type SPB Super Ball Bushing Pillow Block Mounting Hole Position for Sizes .250 and .375



View A-A

## RoundRail Linear Guides

### End Support Linear Guide 1BA with 2 Pillow Blocks (Dimensions in inches)

Part Number		Nominal Diameter	L1	L3	H	HS	B	Bb	B9	Pillow Block	Shaft Support	
With Type ASB Shaft Supports	With Type SB Shaft Supports										Type ASB	Type SB
1BA-04-AHO	–	.250	1.19	.50	.937	–	1.50	–	1.63	SPB-4-XS	ASB-4-XS	–
1BA-06-AHO	–	.375	1.31	.56	10.62	–	1.63	–	1.75	SPB-6-XS	ASB-6-XS	–
1BA-08-AHO	1BA-08-AJO	.500	1.69	.63	1.562	1.687	2.00	2.00	2.00	SSPB-8-XS	ASB-8-XS	SB-8-XS
1BA-12-AHO	1BA-12-AJO	.750	2.06	.75	2.062	2.187	2.50	2.75	2.75	SSPB-12-XS	ASB-12-XS	SB-12-XS
1BA-16-AHO	1BA-16-AJO	1.000	2.81	1.00	2.562	2.687	3.25	3.25	3.25	SSPB-16-XS	ASB-16-XS	SB-16-XS
–	1BA-20-AJO	1.250	3.63	1.13	–	3.250	–	–	4.00	SSPB-20-XS	–	SB-20-XS
1BA-24-AHO	1BA-24-AJO	1.500	4.00	1.25	3.750	3.750	4.75	4.75	4.75	SSPB-24-XS	ASB-24-XS	SB-24-XS

### End Support Linear Guide 1BA with 1 Twin Pillow Block (Dimensions in inches)

Part Number		Nominal Diameter	L2	L3	H	HS	B	Bb	B9	Max Stroke Length	Pillow Block	Shaft Support	
With Type ASB Shaft Supports	With Type SB Shaft Supports											Type ASB	Type SB
1BA-04-BHO	–	.250	2.50	.50	.937	–	1.50	–	1.63	L-(3.50)	TWN-4-XS	ASB-4-XS	–
1BA-06-BHO	–	.375	2.75	.56	10.62	–	1.63	–	1.75	L-(3.88)	TWN-6-XS	ASB-6-XS	–
1BA-08-BHO	1BA-08-BJO	.500	3.50	.63	1.562	1.687	2.00	2.00	2.00	L-(4.75)	SSUTWN-8-XS	ASB-8-XS	SB-8-XS
1BA-12-BHO	1BA-12-BJO	.750	4.50	.75	2.062	2.187	2.50	2.75	2.75	L-(6.00)	SSUTWN-12-XS	ASB-12-XS	SB-12-XS
1BA-16-BHO	1BA-16-BJO	1.000	6.00	1.00	2.562	2.687	3.25	3.25	3.25	L-(8.00)	SSUTWN-16-XS	ASB-16-XS	SB-16-XS
–	1BA-20-BJO	1.250	7.50	1.13	–	3.250	–	–	4.00	L-(9.75)	SSUTWN-20-XS	–	SB-20-XS
1BA-24-BHO	1BA-24-BJO	1.500	9.00	1.25	3.750	3.750	4.75	4.75	4.75	L-(11.50)	SSUTWN-24-XS	ASB-24-XS	SB-24-XS

Shaft Deflection Note: Load limit may be below the dynamic load rating due to shaft deflection. Bearings can accommodate up to 1/2° deflection. See Engineering section (page 257) for Deflection calculations.

### Dynamic Load Capacity Matrix (4 million inches travel)

Linear Guide Assembly Part Number	Dynamic Load Capacity (lb.) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb.)
1BA-04-AHO	100	SPB-4-XS	50
1BA-06-AHO	160	SPB-6-XS	80
1BA-08-AHO	800	SSPB-8-XS	400
1BA-12-AHO	1800	SSPB-12-XS	900
1BA-16-AHO	3000	SSPB-16-XS	1500
–	3730	SSPB-20-XS	1865
1BA-24-AHO	6160	SSPB-24-XS	3080

### Dynamic Load Capacity Matrix (4 million inches travel)

Linear Guide Assembly Part Number	Dynamic Load Capacity (lb.) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb.)
1BA-04-BHO	100	TWN-4-XS	100
1BA-06-BHO	160	TWN-6-XS	160
1BA-08-BHO	800	SSUTWN-8-XS	800
1BA-12-BHO	1800	SSUTWN-12-XS	1800
1BA-16-BHO	3000	SSUTWN-16-XS	3000
–	3730	SSUTWN-20-XS	3730
1BA-24-BHO	6160	SSUTWN-24-XS	6160

† Super Ball Bushing Bearings are used in .250 and .375 inch size pillow blocks.

## Replacement Component Dimensions

### Type SPB and SSUPB Pillow Blocks (Dimensions in inches)

Part Number	Nom. Dia.	L1	H9	H8	H5	B9	B7	J	J1	F		Wt. (lb)
										Bolt	Hole	
SPB-4-XS	.250	1.19	.81	.437	.19	1.63	1.00	1.31	.75 <sup>(2)</sup>	#6	.16	.10
SPB-6-XS	.375	1.31	.94	.500	.19	1.75	1.12	1.44	.88 <sup>(2)</sup>	#6	.16	.13
SSPB-8-XS	.500	1.69	1.25	.687	.25	2.00	1.38	1.69	1.00	#6	.16	.20
SSPB-12-XS	.750	2.06	1.75	.937	.31	2.75	1.88	2.38	1.25	#8	.19	.62
SSPB-16-XS	1.000	2.81	2.19	1.187	.38	3.25	2.38	2.88	1.75	#10	.22	1.24
SSPB-20-XS	1.250	3.63	2.81	1.500	.43	4.00	3.00	3.50	2.00	#10	.22	2.57
SSPB-24-XS	1.500	4.00	3.25	1.750	.50	4.75	3.50	4.12	2.50	1/4	.28	3.94

Housing Material: Aluminum Alloy Black Anodized. (2) Two mounting holes as shown in view A-A for sizes .250 and .375. Top plates are sold separately. Please refer to page 243 under Accessories for P/N and dimensions.

### Type TWN and SSUTWN Pillow Blocks

Part Number	Nom. Dia.	L2	J3	Wt. (lb)
TWN-4-XS	.25	2.50	2.00	.19
TWN-6-XS	.375	2.75	2.25	.25
SSUTWN-8-XS	.500	3.50	2.50	.40
SSUTWN-12-XS	.750	4.50	3.50	1.24
SSUTWN-16-XS	1.000	6.00	4.50	2.48
SSUTWN-20-XS	1.250	7.50	5.50	5.14
SSUTWN-24-XS	1.500	9.00	6.50	8.08

Housing Material: Aluminum Alloy Black Anodized and

### Type ASB LinearRace Shaft End Support Block (Dim. in in.)

Part Number	Nom. Dia.	L3	H3	H1	B	B3	F		Wt. (lb)
							Bolt	Hole	
ASB-4-XS	.250	.50	.88	.500	1.50	1.12	#6	.16	.06
ASB-6-XS	.375	.56	1.00	.562	1.62	1.25	#6	.16	.08
ASB-8-XS	.500	.63	1.48	.875	2.00	1.50	#8	.19	.11
ASB-12-XS	.750	.75	1.95	1.125	2.50	2.00	#10	.22	.22
ASB-16-XS	1.000	1.00	2.48	1.375	3.25	2.50	1/4	.28	.44
ASB-24-XS	1.500	1.25	3.50	2.000	4.75	3.50	5/16	.34	1.16

End Support Material: Aluminum Alloy Black Anodized

### Type SB LinearRace Shaft End Support Block (Dim. in in.)

Part Number	Nom. Dia.	L3	Hh	Hc	Bb	B3	F		Wt. (lb)
							Bolt	Hole	
SB-8-XS	.500	.63	1.62	1.000	2.00	1.50	#8	.16	.3
SB-12-XS	.750	.75	2.12	1.250	2.75	2.00	#10	.16	.5
SB-16-XS	1.000	1.00	2.56	1.500	3.25	2.50	1/4	.19	1.0
SB-20-XS	1.250	1.13	3.00	1.750	4.00	3.00	5/16	.22	2.0
SB-24-XS	1.500	1.25	3.50	2.000	4.75	3.50	5/16	.28	2.6

Material: Iron