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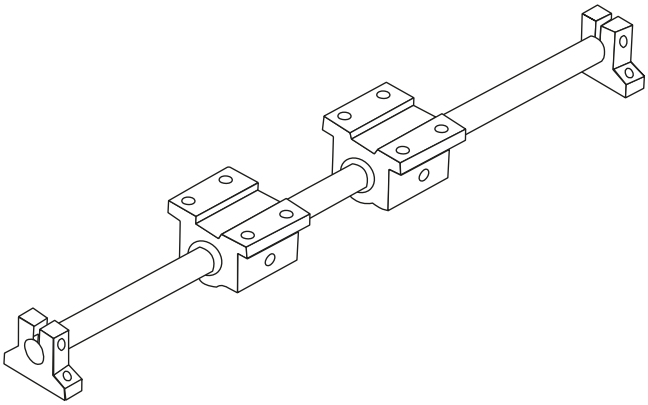
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End Support Linear Ball Guides



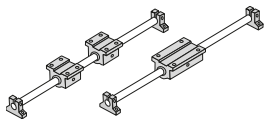
Easy to install, smooth operation, self aligning, high speed

End Support Linear Ball Guides Offer:

- Increased life within the same envelope. RoundRail linear guides feature the new patented Super Smart Ball Bushing® Bearings for up to 216X the life or 6X the load capacity of conventional bearings.
- Cost savings: save time and money preparing your mounting surfaces before bolting down RoundRail linear guides.
- End supported for gantry style or 'bridge' applications.
- The RoundRail Advantage. The inherent self-aligning-in-all-directions design of the Super Smart Ball Bushing Bearing allows for ultra-smooth travel when mounted to wider-toleranced prepared surfaces.
- The Super Smart Ball Bushing Bearing... the most technologically advanced and most robust linear bearing in the world.
- Corrosion-resistant versions for maximum performance in harsh environments.

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 lightweight 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.

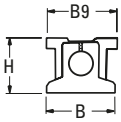
Part Numbering System

1BA 12 A HO L24

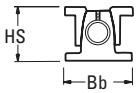
- **1BA** — Linear Guide Designation
- **12** — Nominal Diameter
- **A** — Type of Bearing Block
- **HO** — Type of Support
- **L24** — Linear Guide Length

Dimensions (Inch)

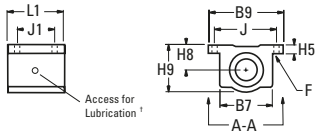
Type ASB End Support Block



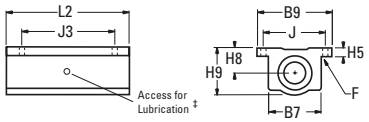
Type SB End Support Block



Type SSUPB Super Smart and SPB Super Ball Bushing Pillow Blocks

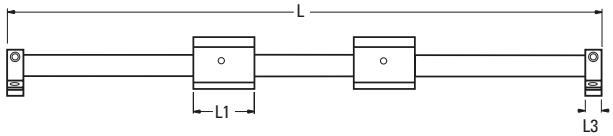


Type SSUTWN Super Smart and TWN Super Ball Bushing Twin Pillow Blocks

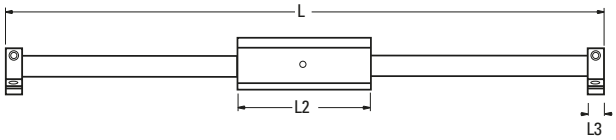


‡ Sizes .250, .375 and .500 have oil lubricant fitting. Sizes .625 and above have 1/4-28 access for lubrication.

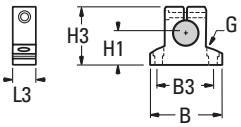
Single End Supported Linear Guide with 2 Pillow Blocks



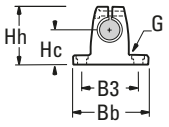
Single End Supported Linear Guide with 1 Twin Pillow Block



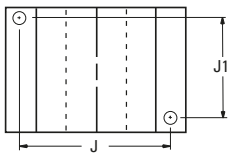
Aluminum
Type ASB LinearRace Shaft End Support Block



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

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
1BA04AHO	–	.250	1.19	.50	.937	–	1.50	–	1.63	SPB4-XS	ASB4-XS	–
1BA06AHO	–	.375	1.31	.56	10.62	–	1.63	–	1.75	SPB6-XS	ASB6-XS	–
1BA08AHO	1BA08AJO	.500	1.69	.63	1.562	1.687	2.00	2.00	2.00	SSUPB8-XS	ASB8-XS	SB8-XS
1BA12AHO	1BA12AJO	.750	2.06	.75	2.062	2.187	2.50	2.75	2.75	SSUPB12-XS	ASB12-XS	SB12-XS
1BA16AHO	1BA16AJO	1.000	2.81	1.00	2.562	2.687	3.25	3.25	3.25	SSUPB16-XS	ASB16-XS	SB16-XS
–	1BA20AJO	1.250	3.63	1.13	–	3.250	–	–	4.00	SSUPB20-XS	–	SB20-XS
1BA24AHO	1BA24AJO	1.500	4.00	1.25	3.750	3.750	4.75	4.75	4.75	SSUPB24-XS	ASB24-XS	SB24-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
1BA04BHO	–	.250	2.50	.50	.937	–	1.50	–	1.63	L-(3.50)	TWN4-XS	ASB4-XS	–
1BA06BHO	–	.375	2.75	.56	10.62	–	1.63	–	1.75	L-(3.88)	TWN6-XS	ASB6-XS	–
1BA08BHO	1BA08BJO	.500	3.50	.63	1.562	1.687	2.00	2.00	2.00	L-(4.75)	SSUTWN8-XS	ASB8-XS	SB8-XS
1BA12BHO	1BA12BJO	.750	4.50	.75	2.062	2.187	2.50	2.75	2.75	L-(6.00)	SSUTWN12-XS	ASB12-XS	SB12-XS
1BA16BHO	1BA16BJO	1.000	6.00	1.00	2.562	2.687	3.25	3.25	3.25	L-(8.00)	SSUTWN16-XS	ASB16-XS	SB16-XS
–	1BA20BJO	1.250	7.50	1.13	–	3.250	–	–	4.00	L-(9.75)	SSUTWN20-XS	–	SB20-XS
1BA24BHO	1BA24BJO	1.500	9.00	1.25	3.750	3.750	4.75	4.75	4.75	L-(11.50)	SSUTWN24-XS	ASB24-XS	SB24-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 265) for Deflection calculations.

Dynamic Load Capacity Matrix (4 million inches travel)

Linear Guide Assembly Part Number		Dynamic Load Capacity (lb_f) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb_f)
1BA04AHO	–	100	SPB4-XS	50
1BA06AHO	–	160	SPB6-XS	80
1BA08AHO	1BA08AJO	800	SSUPB8-XS	400
1BA12AHO	1BA12AJO	1800	SSUPB12-XS	900
1BA16AHO	1BA16AJO	3000	SSUPB16-XS	1500
–	1BA20AJO	3730	SSUPB20-XS	1865
1BA24AHO	1BA24AJO	6160	SSUPB24-XS	3080

Dynamic Load Capacity Matrix (4 million inches travel)

Linear Guide Assembly Part Number		Dynamic Load Capacity (lb_f) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb_f)
1BA04BHO	–	100	TWN4-XS	100
1BA06BHO	–	160	TWN6-XS	160
1BA08BHO	1BA08BJO	800	SSUTWN8-XS	800
1BA12BHO	1BA12BJO	1800	SSUTWN12-XS	1800
1BA16BHO	1BA16BJO	3000	SSUTWN16-XS	3000
–	1BA20BJO	3730	SSUTWN20-XS	3730
1BA24BHO	1BA24BJO	6160	SSUTWN24-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	
SPB4-XS	.250	1.19	.81	.437	.19	1.63	1.00	1.31	.75[2]	#6	.16	.10
SPB6-XS	.375	1.31	.94	.500	.19	1.75	1.12	1.44	.88[2]	#6	.16	.13
SSUPB8-XS	.500	1.69	1.25	.687	.25	2.00	1.38	1.69	1.00	#6	.16	.20
SSUPB12-XS	.750	2.06	1.75	.937	.31	2.75	1.88	2.38	1.25	#8	.19	.62
SSUPB16-XS	1.000	2.81	2.19	1.187	.38	3.25	2.38	2.88	1.75	#10	.22	1.24
SSUPB20-XS	1.250	3.63	2.81	1.500	.43	4.00	3.00	3.50	2.00	#10	.22	2.57
SSUPB24-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.

Type TWN and SSUTWN Pillow Blocks

Part Number	Nom. Dia.	L2	J3	Wt. (lb)
TWN4-XS	.25	2.50	2.00	.19
TWN6-XS	.375	2.75	2.25	.25
SSUTWN8-XS	.500	3.50	2.50	.40
SSUTWN12-XS	.750	4.50	3.50	1.24
SSUTWN16-XS	1.000	6.00	4.50	2.48
SSUTWN20-XS	1.250	7.50	5.50	5.14
SSUTWN24-XS	1.500	9.00	6.50	8.08

Housing Material: Aluminum Alloy Black Anodized

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

Part Number	Nom. Dia.	L3	H3	H1	B	B3	F		Wt. (lb)
							Bolt	Hole	
ASB4-XS	.250	.50	.88	.500	1.50	1.12	#6	.16	.06
ASB6-XS	.375	.56	1.00	.562	1.62	1.25	#6	.16	.08
ASB8-XS	.500	.63	1.48	.875	2.00	1.50	#8	.19	.11
ASB12-XS	.750	.75	1.95	1.125	2.50	2.00	#10	.22	.22
ASB16-XS	1.000	1.00	2.48	1.375	3.25	2.50	1/4	.28	.44
ASB24-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

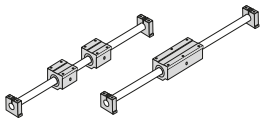
Type SB LinearRace® Shaft End-Support Block (Dim. in in.)

Part Number	Nom. Dia.	L3	Hh	Hc	Bb	B3	F		Wt. (lb)
							Bolt	Hole	
SB8-XS	.500	.63	1.62	1.000	2.00	1.50	#8	.16	.3
SB12-XS	.750	.75	2.12	1.250	2.75	2.00	#10	.16	.5
SB16-XS	1.000	1.00	2.56	1.500	3.25	2.50	1/4	.19	1.0
SB20-XS	1.250	1.13	3.00	1.750	4.00	3.00	5/16	.22	2.0
SB24-XS	1.500	1.25	3.50	2.000	4.75	3.50	5/16	.28	2.6

Material: Iron

End Support 1NA

End-Supported, Industry Standard Dimension Metric



Features

- Requires only one part number to specify entire linear guide.
- Available with 60 Case® LinearRace shaft end support blocks in either lightweight 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.

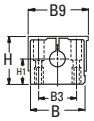
Part Numbering System

1NA M12 N MO L600

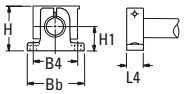
- **1NA** — Linear Guide Designation
- **M12** — Nominal Diameter
- **N** — Type of Bearing Block
- **MO** — Type of Support
- **L600** — Linear Guide Length

Dimensions (Inch)

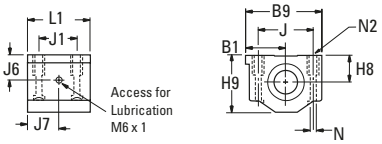
Type ASB End Support Block



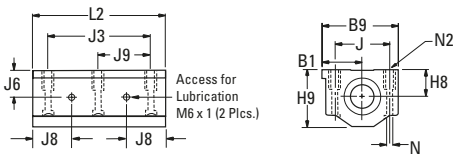
Type SB End Support Block



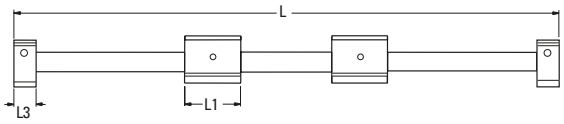
Type SPPB Super and SSEPB Super Smart Ball Bushing Pillow Blocks



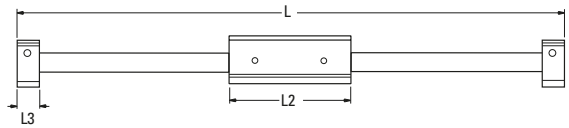
Type SPTWN Super and SSETWN Super Smart Ball Bushing Twin Pillow Blocks



Supported Linear Guide with 2 Pillow Blocks

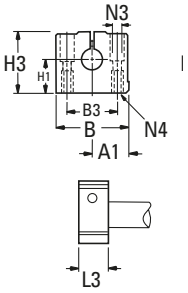


Supported Linear Guide with 1 Twin Pillow Block

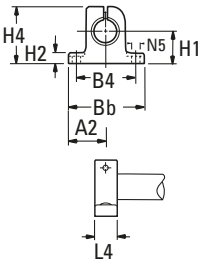


Maximum Stroke Length is determined by subtracting pillow block length (L2) and 2x support block length (L3) or (L4) from total Linear Guide length (L).

Aluminum
Type ASB LinearRace Shaft End Support Block



Steel
Type SB LinearRace Shaft End Support Block



End-Support Linear Guide 1NA with 2 Pillow Blocks (Dimensions in mm)

Part Number		Nom. Dia.	L1	L3	L4	H	H1	B	Bb	B9	Pillow Block	Shaft Support	
With Type ASB Shaft Supports	With Type SB Shaft Supports											Type ASB	Type SB
1NAM08NMO	1NAM08NNO	8	32	18	10	30	15	32	32	35	SPPBM08-XS	ASBM08-XS	SBM08-XS
1NAM12NMO	1NAM12NNO	12	39	20	12	38	20	43	42	43	SSEPBM12-XS	ASBM12-XS	SBM12-XS
1NAM16NMO	1NAM16NNO	16	43	24	16	47	25	43	50	53	SSEPBM16-XS	ASBM16-XS	SBM16-XS
1NAM20NMO	1NAM20NNO	20	54	30	20	55	30	60	60	60	SSEPBM20-XS	ASBM20-XS	SBM20-XS
1NAM25NMO	1NAM25NNO	25	67	38	25	65	35	78	74	78	SSEPBM25-XS	ASBM25-XS	SBM25-XS
1NAM30NMO	1NAM30NNO	30	79	40	28	75	40	87	84	87	SSEPBM30-XS	ASBM30-XS	SBM30-XS
1NAM40NMO	1NAM40NNO	40	91	48	32	95	50	108	108	108	SSEPBM40-XS	ASBM40-XS	SBM40-XS

End-Support Linear Guide 1NA with 1 Twin Pillow Block (Dimensions in mm)

Part Number		Nom. Dia.	L2	L3	L4	H	H1	B	Bb	B9	Pillow Block	Shaft Support	
With Type ASB Shaft Supports	With Type SB Shaft Supports											Type ASB	Type SB
1NAM08PMO	1NAM08PNO	8	62	18	10	30	15	32	32	35	SPTWNM08-XS	ASBM08-XS	SBM08-XS
1NAM12PMO	1NAM12PNO	12	76	20	12	38	20	43	42	43	SSETWNM12-XS	ASBM12-XS	SBM12-XS
1NAM16PMO	1NAM16PNO	16	84	24	16	47	25	43	50	53	SSETWNM16-XS	ASBM16-XS	SBM16-XS
1NAM20PMO	1NAM20PNO	20	104	30	20	55	30	60	60	60	SSETWNM20-XS	ASBM20-XS	SBM20-XS
1NAM25PMO	1NAM25PNO	25	130	38	25	65	35	78	74	78	SSETWNM25-XS	ASBM25-XS	SBM25-XS
1NAM30PMO	1NAM30PNO	30	152	40	28	75	40	87	84	87	SSETWNM30-XS	ASBM30-XS	SBM30-XS
1NAM40PMO	1NAM40PNO	40	176	48	32	95	50	108	108	108	SSETWNM40-XS	ASBM40-XS	SBM40-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 265) for Deflection calculations.

Dynamic Load Capacity Matrix (100 km travel)

Linear Guide Assembly Part Number		Dynamic Load Capacity (lb_f) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb_f)
1NAM08NMO	1NAM08NNO	100	SPPBM08-XS	50
1NAM12NMO	1NAM12NNO	160	SSEPBM12-XS	80
1NAM16NMO	1NAM16NNO	800	SSEPBM16-XS	400
1NAM20NMO	1NAM20NNO	1800	SSEPBM20-XS	900
1NAM25NMO	1NAM25NNO	3000	SSEPBM25-XS	1500
1NAM30NMO	1NAM30NNO	3730	SSEPBM30-XS	1865
1NAM40NMO	1NAM40NNO	6160	SSEPBM40-XS	3080

Dynamic Load Capacity Matrix (100 km travel)

Linear Guide Assembly Part Number		Dynamic Load Capacity (lb_f) (Even Distribution)	Pillow Block Part Number	Pillow Block Dynamic Load Capacity (lb_f)
1NAM08PMO	1NAM08PNO	100	SPTWNM08-XS	100
1NAM12PMO	1NAM12PNO	160	SSETWNM12-XS	160
1NAM16PMO	1NAM16PNO	800	SSETWNM16-XS	800
1NAM20PMO	1NAM20PNO	1800	SSETWNM20-XS	1800
1NAM25PMO	1NAM25PNO	3000	SSETWNM25-XS	3000
1NAM30PMO	1NAM30PNO	3730	SSETWNM30-XS	3730
1NAM40PMO	1NAM40PNO	6160	SSETWNM40-XS	6160

† Super Ball Bushing® Bearings are used in 8 mm size pillow blocks.

Replacement Component Dimensions

Type SPPB and SSEPB Pillow Blocks (Dimensions in mm)

Part Number	Nom. Dia.	L1	H8	H9	B1	B9	J	J1	J6	J7	N Dia.	N2	Mass (kg)
SPPBM08-XS	8	32	15	28	17.5	35	25	20	15	19.5	3.3	M4	0.07
SSEPBM12-XS	12	39	18	35	21.5	43	32	23	18	23.0	4.3	M5	0.13
SSEPBM16-XS	16	43	22	42	26.5	53	40	26	22	25.0	5.3	M6	0.20
SSEPBM20-XS	20	54	25	50	30.0	60	45	32	25	30.5	6.6	M8	0.35
SSEPBM25-XS	25	67	30	60	39.0	78	60	40	30	37	8.4	M10	0.66
SSEPBM30-XS	30	79	35	70	43.5	87	68	45	35	43	8.4	M10	0.99
SSEPBM40-XS	40	91	45	90	54.0	108	86	58	45	49	10.5	M12	1.83

Housing Material: Aluminum Alloy Grey Anodized.

Type SPTWN and SSETWN Pillow Blocks

Part Number	Nom. Dia.	L2	J3	J8	J9	Mass (kg)
SPTWNM08-XS	8	62	50	19.5	25	0.15
SSETWNM12-XS	12	76	56	23.0	28	0.27
SSETWNM16-XS	16	84	64	25.0	32	0.41
SSETWNM20-XS	20	104	76	30.5	38	0.73
SSETWNM25-XS	25	130	94	37.0	47	1.37
SSETWNM30-XS	30	152	106	43.0	53	2.04
SSETWNM40-XS	40	176	124	49.0	62	3.73

Housing Material: Aluminum Alloy Grey Anodized

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

Part Number	Nom. Dia.	A1	B	B3	H1	H3	L3	N3 Bolt	N4	Mass (kg)
ASBM08-XS	8	16.0	32	22	15	28	18	3.5	M4	0.04
ASBM12-XS	12	21.5	43	30	20	36	20	5.3	M6	0.10
ASBM16-XS	16	26.5	53	38	25	43	24	6.6	M8	0.15
ASBM20-XS	20	30.0	60	42	30	51	30	8.4	M10	0.23
ASBM25-XS	25	39.0	78	56	35	61	38	10.5	M12	0.41
ASBM30-XS	30	43.5	87	64	40	71	40	10.5	M12	0.53
ASBM40-XS	40	54.0	108	82	50	88	48	13.5	M16	0.99

End Support Material: Aluminum Alloy Grey Anodized

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

Part Number	Nom. Dia.	A2	B4	Bb	H1	H2	H4	L4	N5 Dia.	Mass (kg)
SBM08-XS	8	16	25	32	15	5.2	27	10	4.5	0.03
SBM12-XS	12	21	32	42	20	5.5	35	12	5.5	0.06
SBM16-XS	16	25	40	50	25	6.5	42	16	5,5	0.11
SBM20-XS	20	30	45	60	30	8.0	50	20	5.5	0.21
SBM25-XS	25	37	60	74	35	9.0	58	25	6.6	0.35
SBM30-XS	30	42	68	84	40	10.0	68	28	9.0	0.52
SBM40-XS	40	54	86	108	50	12.0	86	32	11.0	0.92

End Support Material: Iron

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