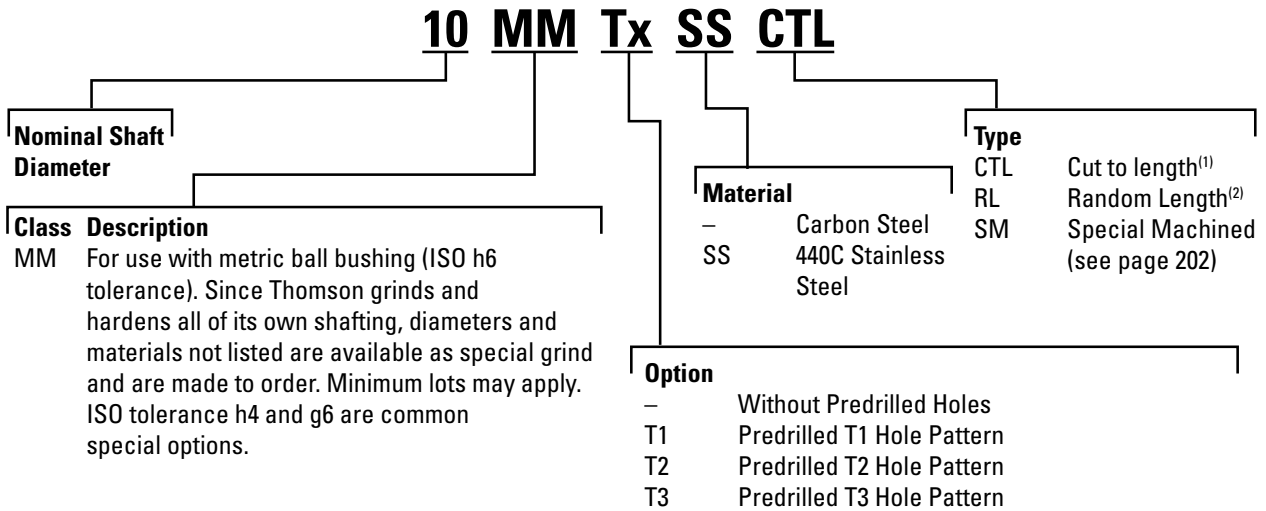


Thomson RoundRail Linear Guides and Components

Hardened and Ground 60 Case® Precision LinearRace® Shafting

Part Number Description



(1) CTL = Cut to length is Thomson 60 Case cut to your specified length.

(2) RL = Random length is full bar or long length shafting. It is called random length because we start with a raw bar 4" to 6" longer than the minimum usable but guarantee only the minimum visible. We mark the ends of what is out of our own tolerance. This is the result of the manufacturing process and tightly controlled roundness specifications.

Not all options are available in all sizes.

See catalog pages or contact Thomson Customer Support for combination availability.

For additional information on material options, see page 264.

Solid Carbon Steel

Hardness: 60 ROCKWELL C Min.

Surface Finish: 8 Ra microinch Max

Roundness: .0020 mm (.000080") Class MM

Straightness: .0254 mm (.001") Per Foot Cumulative
 (.051 mm (.002") TIR)

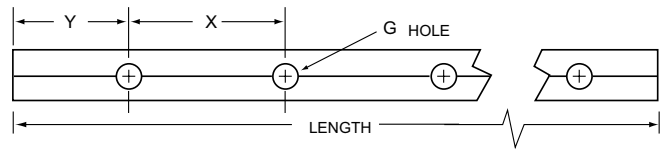
Taper: .0025 mm (.001")

Nominal Diameter (mm)	Basic Part Number	Diameter Tolerance		Min. Usable Length		Min. Hardness Depth		Weight per m (kg)	Weight per inch (lb)
		(mm)	(inch)	(mm)	(inch)	(mm)	(inch)		
5	5 MM	5.00	.1969	1905	54	0.69	0.027	0.16	0.009
		4.99	.1965						
8	8 MM	8.00	.3150	4216	166	0.69	0.027	0.39	0.022
		7.99	.3146						
10	10 MM	10.00	.3937	4216	166	0.69	0.027	0.63	0.035
		9.99	.3932						
12	12 MM	12.00	.4724	4216	166	1.02	0.04	0.89	0.050
		11.99	.4720						
15	15 MM	15.00	.5906	4521	202	1.02	0.04	1.38	0.077
		14.99	.5902						
16	16 MM	16.00	.6299	4521	202	1.02	0.04	1.57	0.088
		15.99	.6295						
20	20 MM	20.00	.7874	4521	202	1.52	0.06	2.47	0.138
		19.99	.7869						
25	25 MM	25.00	.9843	4521	202	2.03	0.08	3.87	0.216
		24.99	.9838						
30	30 MM	30.00	1.1811	4521	202	2.03	0.08	5.57	0.311
		29.99	1.1806						
40	40 MM	40.00	1.5748	4521	202	2.03	0.08	9.90	0.553
		39.99	1.5743						
50	50 MM	50.00	1.9685	4521	202	2.54	0.1	15.46	0.864
		49.98	1.9679						
60	60 MM	60.00	2.3622	4521	202	2.54	0.1	22.19	1.240
		59.98	2.3615						
80	80 MM	80.00	3.1496	5130	202	2.54	0.1	39.55	2.210
		79.97	3.1486						



Standard Options for Carbon Steel Shafting Pre drilled (Tx)

Hardness: 60 ROCKWELL C Min.
 Surface Finish: 8 Ra microinch Max
 Roundness: .0020 mm (.000080") Class MM
 Straightness: .0254 mm (.001") Per Foot Cumulative
 (.051 mm [.002"] TIR)
 Taper: .0025 mm (.001")



T1 Pre drilled

Nominal Diameter (mm)	Basic Part Number	MM T1 Diameter Tolerance		X ±.40 mm (±.015") (noncumulative)		G Standard Size	Min. Usable Length		Min. Hardness Depth		Weight Per m (kg)	Weight Per in (lb)
		(mm)	(inch)	(mm)	(inch)		(mm)	(in)	(mm)	(in)		
12	12 MM T1	12.00	0.4724	75	2.953	M4	4216	166	1.02	0.04	0.89	0.050
		11.99	0.4720									
16	16 MM T1	16.00	0.6299	100	3.937	M5	4521	178	1.02	0.04	1.57	0.088
		15.99	0.6295									
20	20 MM T1	20.00	0.7874	100	3.937	M6	4521	178	1.52	0.06	2.47	0.138
		19.99	0.7869									
25	25 MM T1	25.00	0.9843	120	4.724	M8	4521	178	2.03	0.08	3.87	0.216
		24.99	0.9838									
30	30 MM T1	30.00	1.1811	150	5.906	M10	4521	178	2.03	0.08	5.57	0.311
		29.99	1.1806									
40	40 MM T1	40.00	1.5748	200	7.874	M10	4521	178	2.03	0.08	9.90	0.553
		39.99	1.5743									

T2 Pre drilled

Nominal Diameter (mm)	Basic Part Number	MM T2 Diameter Tolerance		X ±.40 mm (±.015") (noncumulative)		G Standard Size	Min. Usable Length		Min. Hardness Depth		Weight Per m (kg)	Weight Per in (lb)
		(mm)	(inch)	(mm)	(inch)		(mm)	(in)	(mm)	(in)		
12	12 MM T2	12.00	0.4724	120	4.724	M4	4216	166	1.02	0.04	0.89	0.050
		11.99	0.4720									
16	16 MM T2	16.00	0.6299	150	5.906	M5	4521	178	1.02	0.04	1.57	0.088
		15.99	0.6295									
20	20 MM T2	20.00	0.7874	150	5.906	M6	4521	178	1.52	0.06	2.47	0.138
		19.99	0.7869									
25	25 MM T2	25.00	0.9843	200	7.874	M8	4521	178	2.03	0.08	3.87	0.216
		24.99	0.9838									
30	30 MM T2	30.00	1.1811	200	7.874	M10	4521	178	2.03	0.08	5.57	0.311
		29.99	1.1806									
40	40 MM T2	40.00	1.5748	300	11.811	M10	4521	178	2.03	0.08	9.90	0.553
		39.99	1.5743									

T3 Pre drilled

Nominal Diameter (mm)	Basic Part Number	MM T3 Diameter Tolerance		X ±.40 mm (±.015") (noncumulative)		G Standard Size	Min. Usable Length		Min. Hardness Depth		Weight Per m (kg)	Weight Per in (lb)
		(mm)	(inch)	(mm)	(inch)		(mm)	(in)	(mm)	(in)		
12	12 MM T3	12.00	0.4724	75	2.953	M4	4216	166	1.02	0.04	0.89	0.050
		11.99	0.4720									
16	16 MM T3	16.00	0.6299	75	2.953	M5	4521	178	1.02	0.04	1.57	0.088
		15.99	0.6295									
20	20 MM T3	20.00	0.7874	75	2.953	M6	4521	178	1.52	0.06	2.47	0.138
		19.99	0.7869									
25	25 MM T3	25.00	0.9843	75	2.953	M8	4521	178	2.03	0.08	3.87	0.216
		24.99	0.9838									
30	30 MM T3	30.00	1.1811	100	3.937	M10	4521	178	2.03	0.08	5.57	0.311
		29.99	1.1806									
40	40 MM T3	40.00	1.5748	100	3.937	M10	4521	178	2.03	0.08	9.90	0.553
		39.99	1.5743									

Holes are drilled and tapped to the center of the shaft. Y = distance from end of rail to the center of first mounting hole, Y1 = Y2 unless specified.

Thomson RoundRail Linear Guides and Components

440C Stainless Steel

Hardness: 50 ROCKWELL C Min.

Surface Finish: 8 Ra microinch Max

Straightness: .0254 mm (.001") Per Foot Cumulative
(.051 mm [.002"] TIR)

Roundness: .0020 mm (.000080") Class MM

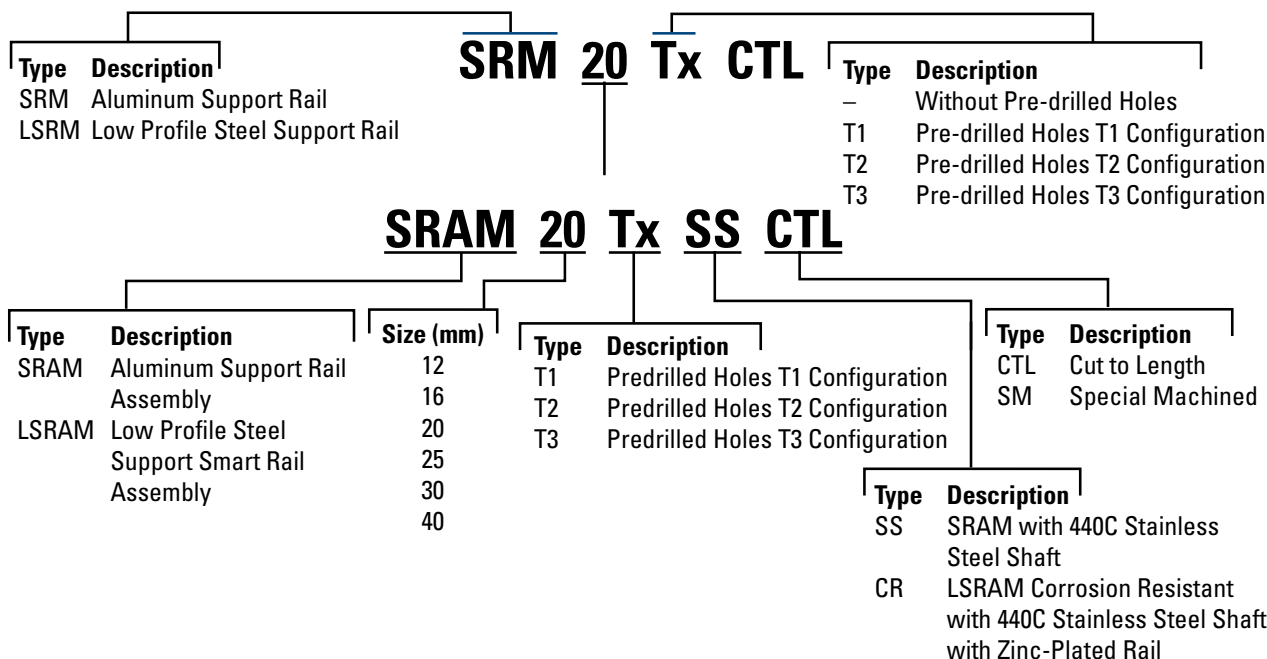
Taper: .0025 mm (.001")

Nominal Dia. (mm)	Basic Part Number	Diameter Tolerance		Min. Usable Length		Min. Hardness Depth		Weight Per m (kg)	Weight Per in (lb)
		(mm)	(inch)	(mm)	(in)	(mm)	(in)		
5	5 MM SS	5.00	0.1969	1905	54	0.69	0.027	0.16	0.009
		4.49	0.1965						
8	8 MM SS	8.00	0.3150	4521	178	0.69	0.027	0.39	0.022
		7.99	0.3146						
10	10 MM SS	10.00	0.3937	4521	178	0.69	0.027	0.63	0.035
		9.99	0.3932						
12	12 MM SS	12.00	0.4724	4521	178	1.02	0.04	0.89	0.050
		11.99	0.4720						
16	16 MM SS	16.00	0.6299	4521	178	1.02	0.04	1.57	0.088
		15.99	0.6295						
20	20 MM SS	20.00	0.7874	4521	178	1.52	0.06	2.47	0.138
		19.99	0.7869						
25	25 MM SS	25.00	0.9843	4521	178	2.03	0.08	3.87	0.216
		24.99	0.9838						
30	30 MM SS	30.00	1.1811	4521	178	2.03	0.08	5.57	0.311
		29.99	1.1806						
40	40 MM SS	40.00	1.5748	4521	178	2.03	0.08	9.90	0.553
		39.99	1.5743						
50	50 MM SS	50.00	1.9685	4521	178	2.54	0.1	15.46	0.864
		49.98	1.9679						
60	60 MM SS	60.00	2.3622	4521	178	2.54	0.1	22.19	1.240
		59.98	2.3615						



Support Rails and Assemblies for Continuously Supported Applications

Part Number Description



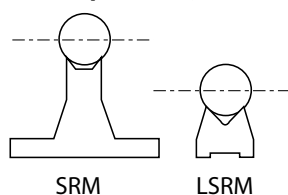
Not all options are available in all sizes.
 See catalog pages or contact Thomson Customer Support for combination availability.
 For additional information on material options, see page 264.

Shaft Rail Supports Type SRM, SRMTx

The low cost way of mounting Thomson 60 Case shafts

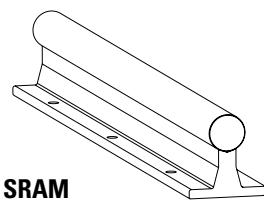
Shaft supports simplify mounting of Thomson 60 Case® shafts. Users of Thomson 60 Case shafting should carefully consider the use of these low-cost shaft supports. They are standard, available from stock, and simplify shaft mounting. In addition to many other benefits, they eliminate many problems encountered in designing and manufacturing shaft-supporting devices. These versatile mounts can be used horizontally or vertically, and in many different arrangements. Shaft support rails are available without predrilled holes (SRM), or predrilled (SRMTx) shaft rails to support 12 mm to 40 mm diameter shafts are available in standard 600 mm where shorter lengths are needed, rails are easily cut to length. For longer shafts, they can be mounted end to end, using shims or grout, if necessary, to compensate for slight variation within manufacturing tolerance. Thomson offers shaft support rails with predrilled holes to simplify shaft mounting.

Thomson RoundRail Linear Guides and Components

Low Shaft Support Rails Type LSRM, LSRMTx**For compact designs**

Low shaft rails allow the design of more compact linear motion systems. The height from the base to the mean shaft center ranges from 14 mm for supporting a 12 mm diameter shaft to a maximum 39 mm when supporting a 40 mm diameter shaft – 40% lower than standard support rails. Low shaft rails are made of steel to maintain optimum shaft rigidity. Either continuous or intermittent support is possible when using Thomson open-type linear ball bearings. Low shaft rails are furnished in standard 1200 mm lengths. Where shorter lengths are required, rails can easily be cut. For supporting longer shafts, rails can be mounted end-to-end without limit. Low shaft rails are available without predrilled mounting holes (LSRM) or with predrilled mounting holes (LSRMTx) to match Thomson drilled and tapped shafts (Tx).

Note: When using LSRMTx, the attachment bolts are from underneath, so you must have access under your machine base plate. The LSRAM assemblies highlighted below utilize attachment bolts from above. If one of the standard predrilled low shaft rails is not appropriate for your design needs, low shaft rails can be custom drilled by Thomson to your specifications. Send a print with all required dimensions, tolerances and quantities needed to our application engineering team.

Pre-Assembled Shaft Rail Assemblies Type SRAM & LSRAM**SRAM**

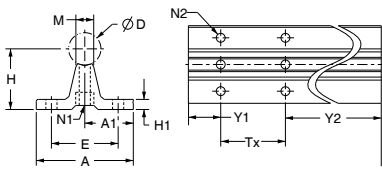
Thomson 60 Case steel shafts mounted on shaft support rails are now available for instant bolt-down installation. Assemblies are supplied cut to any length with no limit on the overall length (long lengths are butt jointed together unless specified otherwise). Either solid or lightweight tubular shafting can be assembled to the standard Thomson support rails, which come with base mounting holes spaced evenly along the overall length of the assembly. The LSRAM uses a special shaft unlike the LSRMTx. The attachment bolts for the LSRAM are from the top down so you can easily mount into a machine base plate. The LSRAM bolt pattern closely matches profile rail linear guides and can easily be used as a drop-in substitute to replace linear guides (ensure you review loading requirements).



60 Case® LinearRace® Support Rails

for Continuously Supported Applications

Type SRM/SRMTx LinearRace Support Rails (Dimensions in mm)



Material: Aluminum Alloy

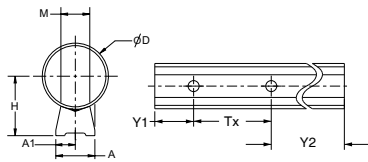
Without Holes	With T1 Hole Spacing	With T2 Hole Spacing	With T3 Hole Spacing	D h6	H ±.02	H1	A	A1 ±.02	M	E ±.15	Bolt Hole					Weight (kg/600 mm)
											Spacing			Sizes		
											T1	T2	T3	N1	N2	
SRM12	SRM12T1	SRM12T2	SRM12T3	12	28	5	43	21.5	9	29	75	120	75	M4	4.5	0.62
SRM16	SRM16T1	SRM16T2	SRM16T3	16	30	5	48	24.0	10	33	100	150	75	M5	5.5	0.72
SRM20	SRM20T1	SRM20T2	SRM20T3	20	38	6	56	28.0	11	37	100	150	75	M6	6.6	1.02
SRM25	SRM25T1	SRM25T2	SRM25T3	25	42	6	60	30.0	14	42	120	200	75	M8	6.6	1.23
SRM30	SRM30T1	SRM30T2	SRM30T3	30	53	8	74	37.0	14	51	150	200	100	M10	8.6	1.89
SRM40	SRM40T1	SRM40T2	SRM40T3	40	60	8	78	39.0	18	55	200	300	100	M10	8.6	2.28

N1 Hole Dia. includes counterbore for socket head cap screw. Alignment and location of holes are ±.15, noncumulative.

Maximum Length 600 mm.

Y1=Y2 unless specified by customer.

Type LSRM/LSRMTx LinearRace Support Rails (Dimensions in mm)



Material: Steel

Without Holes	With T1 Hole Spacing	With T2 Hole Spacing	With T3 Hole Spacing	D h6	H ±.02	A	A1 ±.02	M	E ±.15	Bolt Hole				Weight (kg/1200 mm)
										Spacing			Sizes	
										T1	T2	T3	N	
LSRM12	LSRM12T1	LSRM12T2	LSRM12T3	12	14	12	6.0	6.0	75	120	75	M4	0.68	
LSRM16	LSRM16T1	LSRM16T2	LSRM16T3	16	18	14	7.0	7.0	100	150	75	M5	0.99	
LSRM20	LSRM20T1	LSRM20T2	LSRM20T3	20	22	17	8.5	8.3	100	150	75	M6	1.45	
LSRM25	LSRM25T1	LSRM25T2	LSRM25T3	25	26	21	10.5	10.8	120	200	75	M8	2.06	
LSRM30	LSRM30T1	LSRM30T2	LSRM30T3	30	30	23	11.5	11.0	150	200	100	M10	2.39	
LSRM40	LSRM40T1	LSRM40T2	LSRM40T3	40	36	23.6	11.8	17.5	200	300	100	M12	4.05	

Maximum Length 1200 mm.

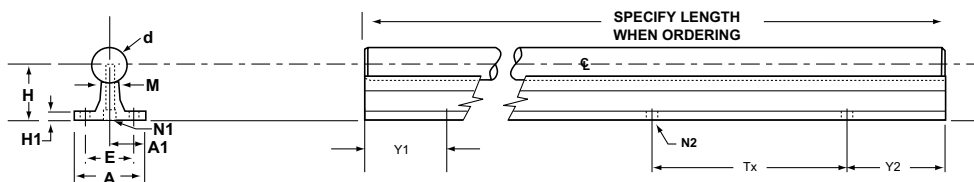
Y1=Y2 unless specified by customer.

Type SRAMTx LinearRace Shafting Support Rail Assemblies (Dimensions in mm)

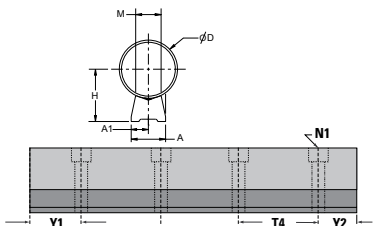
Part Number			d	H ±.02	H1	A	A1 ±.02	M	E ±.15	N1	N2	T1	T2	T3	Weight (kg/m) ⁽¹⁾
SRAMT1 Assembly with LinearRace shafting	SRAMT2 Assembly with LinearRace shafting	SRAMT3 Assembly with LinearRace shafting													
SRAM12T1	SRAM12T2	SRAM12T3	12	28	5	43	21.5	9	29	M4	4.5	75	120	75	1.91
SRAM16T1	SRAM16T2	SRAM16T3	16	30	5	48	24	10	33	M5	5.5	100	150	75	2.75
SRAM20T1	SRAM20T2	SRAM20T3	20	38	6	56	28	11	37	M6	6.6	100	150	75	4.15
SRAM25T1	SRAM25T2	SRAM25T3	25	42	6	60	30	14	42	M8	6.6	120	200	75	5.86
SRAM30T1	SRAM30T2	SRAM30T3	30	53	8	74	37	14	51	M10	8.6	150	200	100	8.65
SRAM40T1	SRAM40T2	SRAM40T3	40	60	8	78	39	18	55	M10	8.6	200	300	100	13.6

(1) Assembly weights do not include hardware.

Y1=Y2 unless specified by customer.



Type LSRAM Smart Rail Assemblies (Dimensions in mm)



Material: Steel Alloy

Part Number ⁽³⁾		LinearRace Diameter h6	H ±.02	A	A1 ±.02	M ±.15	Bolt Hole		Weight (kg/m) ⁽⁴⁾
Smart Rail Assembly ⁽¹⁾ Shafting	Smart Rail Assembly ⁽²⁾ Shafting						T4	N1	
LSRAM16	LSRAM16-CR	16	18	14	7.0	7.0	40	M3	2.56
LSRAM20	LSRAM20-CR	20	22	17	8.5	8.3	60	M4	3.93
LSRAM25	LSRAM25-CR	25	26	21	10.5	10.8	60	M5	5.97
LSRAM30	LSRAM30-CR	30	30	23	11.5	11.7	80	M6	8.12
LSRAM40	LSRAM40-CR	40	36	23.6	11.8	17.5	105	M10	14.27

(1) Consists of black oxide steel rail and high carbon steel LinearRace shafting (HRC 60 min.).

(2) Consists of zinc plated steel rail and 440C stainless steel LinearRace shafting (HRC 50 min.).

(3) Specify length of Smart Rail when ordering. For example, LSRAM20 x 1200 mm. Y dimension is equal on each end unless specified by customer.

(4) Assembly weights do not include hardware.

NOTE: LSRAMs do not use standard "PD" shafting. The shafting requires a different hole pattern and configuration.

NOTE: Use only with Super Smart open pillow blocks.

Support Block for End-Supported Applications

Part Number Description

ASBM 16

Type	Description	Size (mm)	
ASBM	Low Profile 60 Case LinearRace End Support Block	8	25
SBM	Standard 60 Case LinearRace End Support Block	12	30
		16	40
		20	

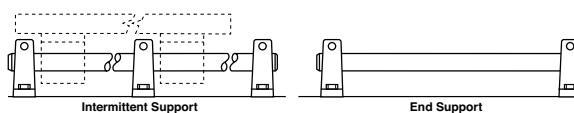
Shaft Support Blocks – Type SBM and ASBM

For end support or intermittent support

Shaft support blocks are used for end or intermittent support where loads are light and deflection between supports is not a problem. Unlike shaft support rails, blocks do not permit longitudinal passage of open-type Ball Bushing® Bearings. Type SBM shaft support blocks enable clamping of shafts and eliminate the need for bolts, etc. to maintain shaft position. Shimming is suggested for high-precision applications to eliminate the effect of variations in surface of base or manufacturing tolerances between supports.

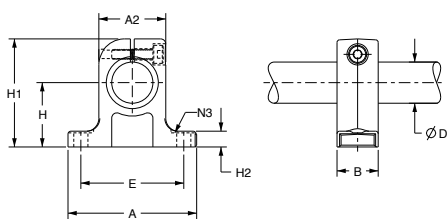


Type ASBM shaft blocks, manufactured from high-strength, extruded aluminum, provide either end or intermittent support in applications where loads are designed with a reference edge on one side of the base. This provides a surface parallel to the center of the shaft within ± 0.025 mm that can be used to simplify shaft alignment.



Metric 60 Case Shafting

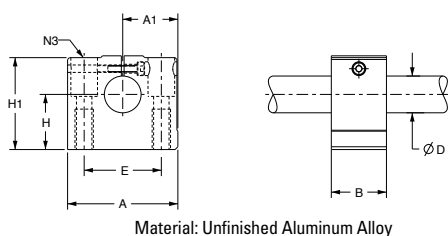
Type SBM 60 Case LinearRace Shaft End Support Blocks (Dimensions in mm)



Material: Painted Malleable Iron

Part Number	d	H ± 0.025	H1	H2	A	A1 ± 0.30	B	E ± 0.30	N	Support Block Mass (kg)
SBM08	8	15	27	5.2	32	16	10	25	4.5	0.03
SBM12	12	20	35	5.5	40	21	12	32	5.5	0.06
SBM16	16	25	42	6.5	50	25	16	40	5.5	0.11
SBM20	20	30	50	8.0	60	30	20	45	5.5	0.21
SBM25	25	35	58	9.0	74	37	25	60	6.6	0.35
SBM30	30	40	68	10.0	84	42	28	68	9.0	0.52
SBM40	40	50	86	12.0	108	54	32	86	11.0	0.92

Type ASBM 60 Case LinearRace Shaft End Support Blocks (Dimensions in mm)



Material: Unfinished Aluminum Alloy

Part Number	d	H ± 0.025	H1	H2	A	A1 ± 0.30	B	E ± 0.30	N	N2	Support Block Mass (kg)
ASBM08	8	15	28	9	32	16.0	18	22	3.5	M4	0.04
ASBM12	12	20	36	13	43	21.5	20	30	5.3	M6	0.10
ASBM16	16	25	43	18	53	26.5	24	38	6.6	M8	0.15
ASBM20	20	30	51	22	60	30.0	30	42	8.4	M10	0.23
ASBM25	25	35	61	26	78	39.0	38	56	10.5	M12	0.41
ASBM30	30	40	71	26	87	43.5	40	64	10.5	M12	0.53
ASBM40	40	50	88	34	108	54.0	48	82	13.5	M16	0.99