LINTECH®

Miniature Profile Rails

Welcome to LINTECH®

For over 50 years LINTECH has designed, engineered, and manufactured linear positioning components for use in a wide range of applications. Whether it is a standard positioning component or a custom positioning assembly, LINTECH takes great pride in manufacturing a quality product.

At LINTECH we are proud to provide the motion control user with this product guide. It was developed to assist you with the design, selection, and implementation of mechanical positioning components.

Depending on the requirements, standard positioning components, or systems, can often be assembled and shipped in less than 2 weeks. Custom positioning assemblies require a different approach. We evaluate your special application, use our many years of experience to guide you, and then manufacture a quality product designed to meet your performance specifications.

LINTECH's technical support consists of a well trained inside customer service department, an experienced application engineering staff, and a versatile machining facility.

Our local technical support group consists of Automation Specialists located throughout the World. These Automation Specialists are experienced in the use of electronic and mechanical motion control products. They are well trained on the performance capabilities of LINTECH positioning components.

LINTECH is constantly designing new products and improving upon the many options available with our standard products. Whether it is a standard or custom positioning system required, visit our website, call, or e-mail us. We look forward to hearing from you.

Visit our website, or call us for the location of the nearest Automation Specialist in your area:

LINTECH®

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version: 09/2021

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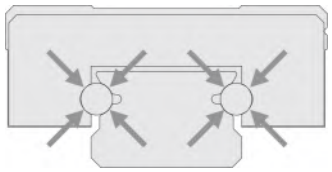
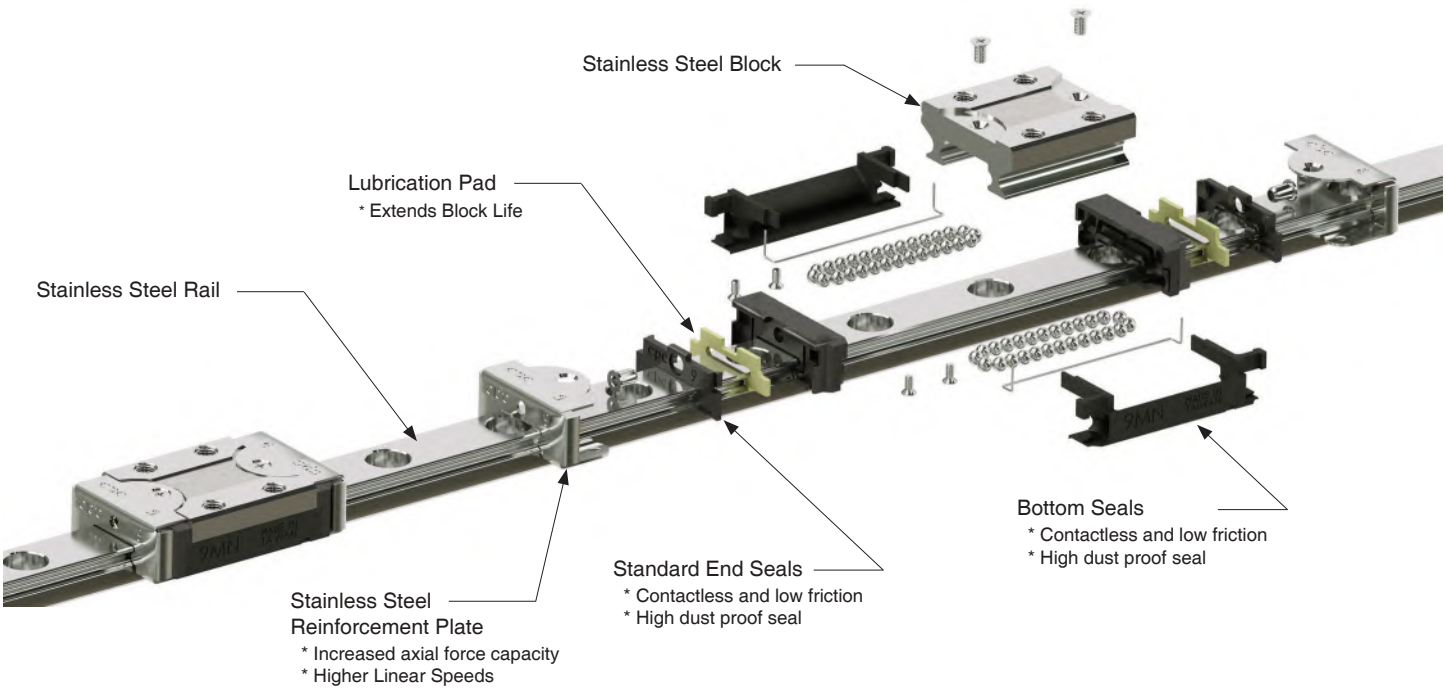
Product Characteristics

The MR miniature linear guide series is designed using two rows of stainless steel recirculating balls. The design uses a Gothic profile with a 45 degree contact angle between the stainless steel rail and the stainless steel block's recirculating balls which provides an equal load capacity in all directions. With the restriction of limited space, larger stainless steel balls are used to enhance load and torsion resistance capacity. The overall design is ideal for high load and high moment applications.



Gothic profile with 45 degree contact angle

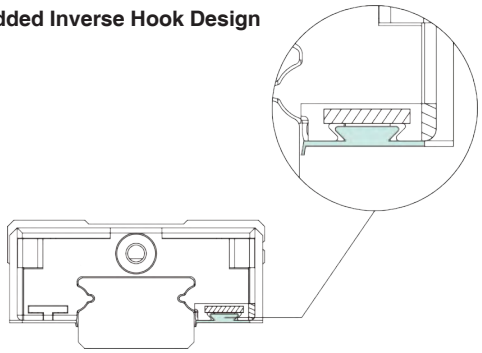
Heat Treated Stainless Steel Design



High Speed Design

When the linear bearing block is in motion and changing directions, the circulating stainless steel balls inside the raceway generate impact forces against the composite end caps. As the demand for rapid motion in the automation industry, the MR series was designed with inverse composite hooks to tightly secure the MR blocks by effectively distributing the applied stress over a larger area.

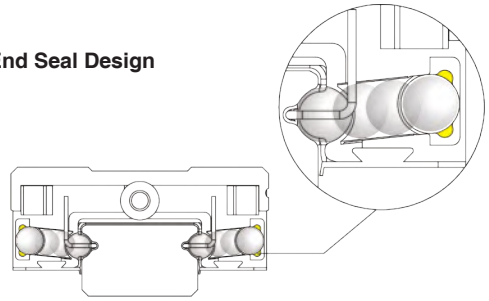
Embedded Inverse Hook Design



Dust Proof End Seal

The MR series is designed with an End Seal that effectively restricts dust contamination to the recirculation balls which prolongs lubrication and ensuring a longer product life. The MR specially designed low friction seal slips do not affect the running smoothness of the block.

Dust Proof End Seal Design



SS - End Seals

The standard dustprooofed end seal option is designed to have the block be hermetically sealed on both ends. This extends the block lifespan, reduces lubrication grease consumption, and ensures a long lasting lubrication effect. The special seal slip design also ensures a low friction force so as not to affect the block's running smoothness.

ZZ - End Seals with Lubrication Pads

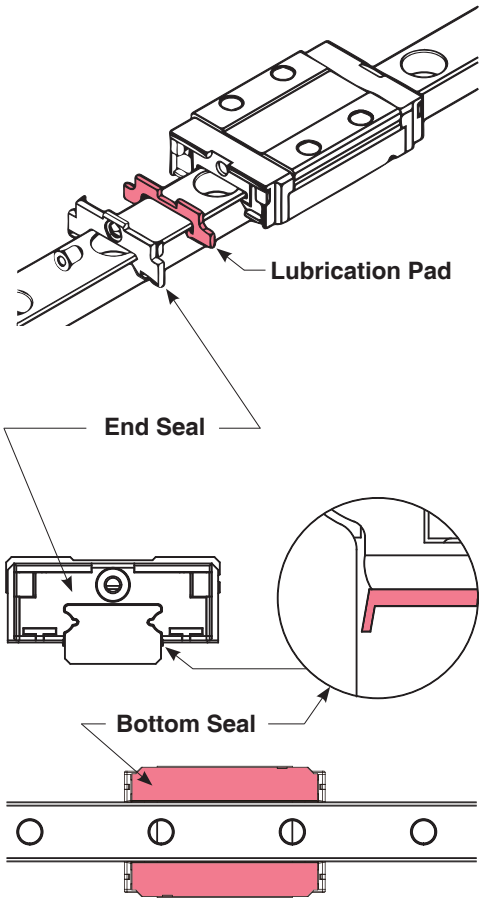
The built-in lubrication pad option can be utilized toward prolonging lubrication further for long term motion. This also reduces maintenance costs, while also demonstrating a superior lubrication capability during short stroke motion.

SU - End and Bottom Seals

In addition to the standard end seals, the block is equipped with a set of standard bottom seals. These bottom seals prevent foreign matter from entering via the lower side of the block and rail, thereby extending the working life of the block.

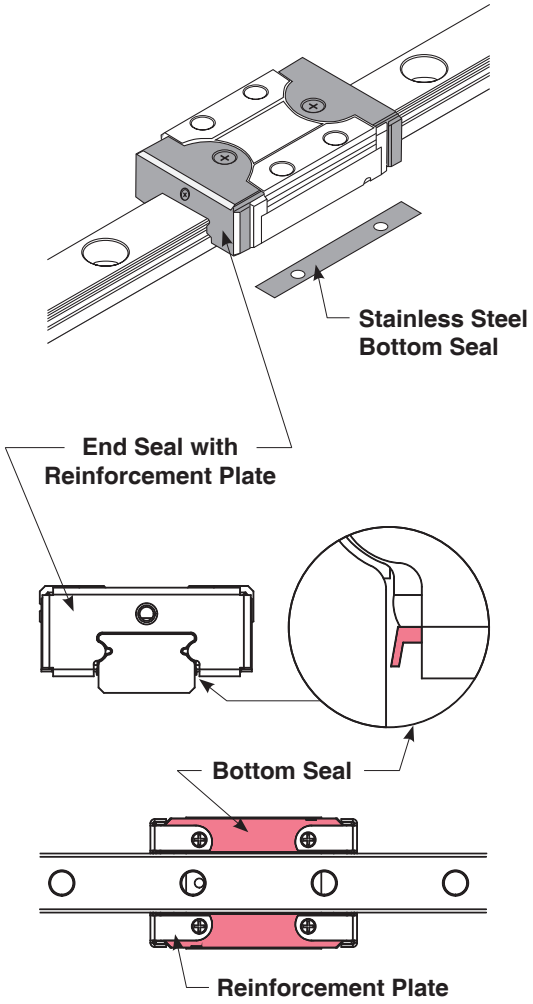
ZU - End and Bottom Seals with Lubrication Pads

The built-in lubrication pad option can be utilized toward prolonging lubrication further for long term motion. This also reduces maintenance costs, while also demonstrating a superior lubrication capability during short stroke motion.



EE - End Seals with Reinforcement Plates

In addition to the standard end seals, the block is equipped with two stainless steel reinforcement plates that completely cover the two plastic end seals on the block. Two stainless steel screws are used to secure the reinforcement plate to the block, thereby strengthening the rigidity and increasing the coverage area of the block endcaps. This allows the block to be used in applications calling for faster running speeds and acceleration rates.



EZ - End Seals with Reinforcement Plates and Lubrication Pads

The built-in lubrication pad option can be utilized toward prolonging lubrication further for long term motion. This also reduces maintenance costs, while also demonstrating a superior lubrication capability during short stroke motion.

EU - End Seals and Stainless Steel Bottom Seals with Reinforcement Plates

In addition to the standard end seals and stainless steel reinforcement plates at each end, the block is also equipped with two stainless steel bottom seals. This provides ultimate block protection from unecessary damage caused by collision with foreign objects and is recommended for environments that have iron scraps in the vincentity.

UZ - End Seals and Stainless Steel Bottom Seals with Reinforcement Plates and Lubrication Pads

The built-in lubrication pad option can be utilized toward prolonging lubrication further for long term motion. This also reduces maintenance costs, while also demonstrating a superior lubrication capability during short stroke motion.

SUE - End and Bottom Seals with Reinforcement Plates

In addition to the standard end seals and stainless steel reinforcement plates at each end, the block is also equipped with two standard bottom seals. This provides the best block protection from unecessary dust and small debris, thereby extending the working life of the block.

ZUE - End and Bottom Seals with Reinforcement Plates and Lubrication Pads

The built-in lubrication pad option can be utilized toward prolonging lubrication further for long term motion. This also reduces maintenance costs, while also demonstrating a superior lubrication capability during short stroke motion.

Operating Temperature Rating - MR

- 40 to **+ 80** degress **C** **(- 40** to **+ 176** degress **F)**

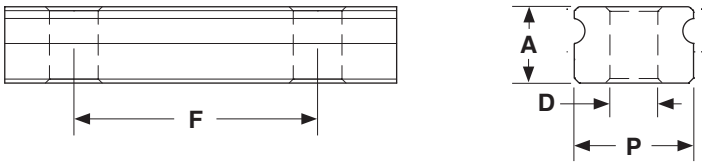
Speed & Acceleration - MR

Definition	End and Bottom Seal Version				
	SS/ZZ	SU/ZU	EE/EZ	EU/UZ	SUE/ZUE
Max Speed (m/sec)	3	3	5	5	5
Max Acceleration (m/sec^2)	250	250	300	300	300

Standard Rail Tapped from Bottom - MRU

Rail Size	(mm)			
	D	P	A	F
MRU 3M	M1.6 x 0.35	3	2.6	10
MRU 5M	M3 x 0.5	5	3.5	15
MRU 7M	M3 x 0.5	7	4.7	15
MRU 9M	M4 x 0.7	9	5.5	20
MRU 12M	M4 x 0.7	12	7.5	25
MRU 15M	M4 x 0.7	15	9.5	40

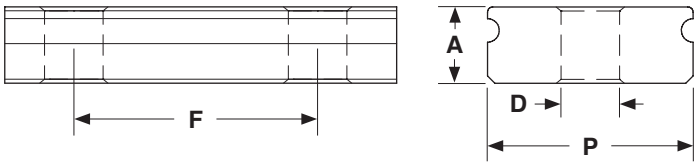
Rail Tapped from Bottom



Wide Rail Tapped from Bottom - MRU

Rail Size	(mm)			
	D	P	A	F
MRU 3W	M3 x 0.5	6	2.7	15
MRU 5W	M3 x 0.5	10	4.0	20
MRU 7W	M4 x 0.7	14	5.2	30
MRU 9W	M4 x 0.7	18	7.3	30
MRU 12W	M5 x 0.8	24	8.5	40
MRU 15W	M5 x 0.8	42	9.5	40

Rail Tapped from Bottom

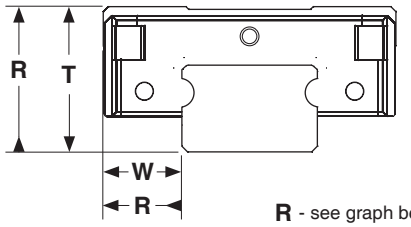


Preload & Clearance - MR

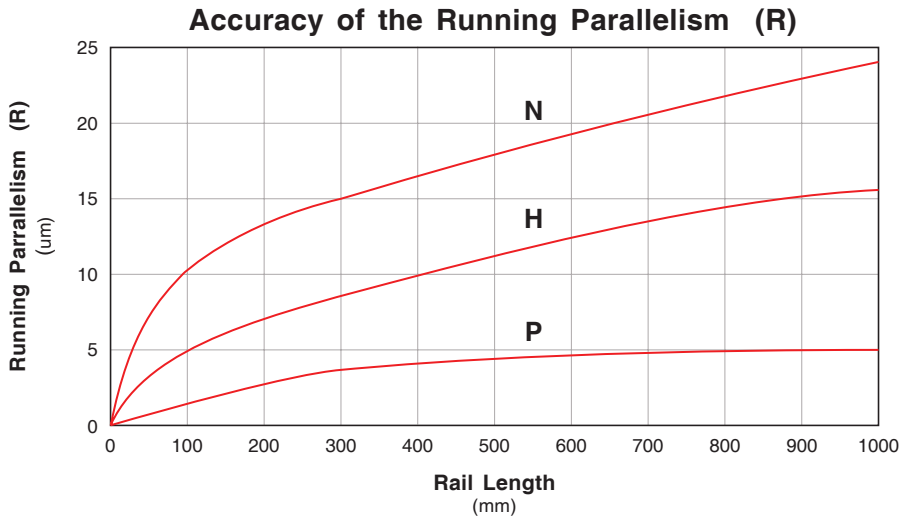
Preload Class	Definition	Clearance (um)						Application
		3	5	7	9	12	15	
V0	Clearance	+3 to 0	+3 to 0	+4 to 0	+4 to 0	+5 to 0	+6 to 0	very smooth
VS	Standard	+1 to 0	+1 to 0	+2 to 0	+2 to 0	+2 to 0	+3 to 0	smooth and high precision
V1	Light Preload	0 to -0.5	0 to -1	0 to -3	0 to -4	0 to -5	0 to -6	high rigidity, minimizes vibration, load balance, high precision

Accuracy - MR

		N (μm)	H (μm)	P (μm)
Tolerance of Dimension Height T	T	+/- 40	+/- 20	+/- 10
Variation of Heigth for a Different Block Loacted at the Same Position on the Rail	▽T	25	15	7
Tolerance of Dimension Width W	W	+/- 40	+/- 25	+/- 15
Variation of Width for a Different Block Loacted at the Same Position on the Rail	▽W	30	20	10



R - see graph below for Accuracy of the Running Parallelism



Lubrication

When operating the MR linear guide under sufficient lubrication conditions, a one (1) micron layer of oil forms at the contact zone, separating the loaded re-circulating balls and the raceway on the linear rail. Sufficient lubrication will reduce friction, reduce wear, reduce oxidation, dissipate heat and increase service life.

Grease Lubrication

The recommended grease lubrication should be a synthetic oil-based lithium soap grease with a viscosity between ISO VG32-100.

Oil Lubrication

For oil lubrication, we recommend synthetic oils CLP, CGLP (based on DIN 51517) or HLP (based on DIN 51524) with a viscosity range of between ISO VG32-100 and a working temperature range between 0 degrees C to +70 degree C. We also recommend ISO VG10 for use in lower temperature environments.

Lubrication Recommedations

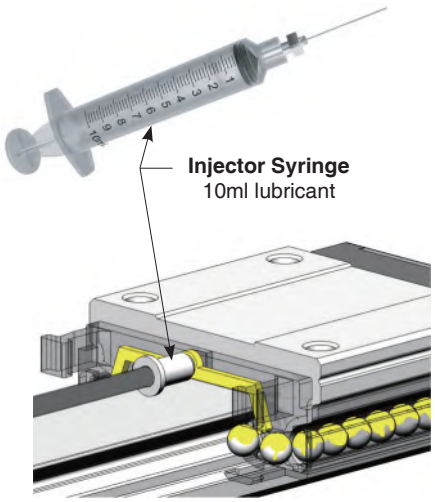
* Every linear guide block and rail is shipped with a lightly applied oil based lubricant
* The linear guide must be lubricated for protection before first time use
* Grease or Oil lubrication can be used
* The lubricant can be injected into the lubricant holes on either end of the bearing block or directly onto the rail
* The linear block should be moved back and forth during lubrication
* Re-lubrication must be completed before contamination or discoloration of the lubricant occurs
* Re-lubrication frequency is dependent on application and environment
* Bearing Block with lubrication pad option can extend time between re-lubrication

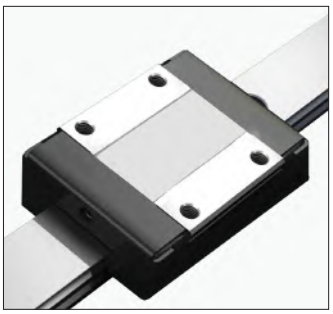
Re-Lubrication

The re-lubrication interval depends on several factors, such as speed, applied load, stroke length, cycles per minute, hours of operation, and environmental conditions. Careful observation of the rails and blocks is the basis to determine the optimal re-lubrication interval. As a general rule of thumb, re-lubrication at least once per year. Also, having a lubrication pad option as part of a bearing block, helps extend the time the proper lubricant is present between the rolling element of the block and the linear rail raceway. Never apply water based coolant liquid on the bearing block or linear rails, as this can severly shorten the life of the system. Inject lubricant through the holes located on both ends of the bearing block with the proper injector syringe or apply the lubricant directly onto the rail and move the bearing block back and forth.

Lubrication Injector Syringe

Size	**Lubrication Oil** General Purpose	**Lubrication Grease** General Purpose	**Lubrication Grease** Clean Room
2 & **3**	Not Available	Not Available	Not Available
5	SYR-5	SYR-5-1	SYR-5-2
7	SYR-7	SYR-7-1	SYR-7-2
9 & **12**	SYR-12	SYR-12-1	SYR-12-2
15	SYR-15	SYR-15-1	SYR-15-2
	Synthetic Oil-based Lithium Soap Grease Viscosity Between ISO VG32-100	Synthetic Oils CLP, CGLP (based on DIN 51517) Viscosity Between ISO VG32-100	Clean Room class 100 Kluber Isoflex Topas NCA51





* Miniature Rail Linear Guide
* Stainless Steel Rail
* 2 rows of re-circulating balls
* Equal loading in all directions
* Standard & Long Block
* Standard and Wide Rail
* 3 Different Accuracy ranges
* 3 Different Preload values
* 10 Different block seal options
* Any rail cut to specific length
* *Optional* - Tapped bottom rail
* *Optional* - Self lube reservoir

MR U 12 M N SUE VS H - 2 - 1260 - 30 - 30

Series Type

MR - Miniature Linear Guide

Rail Type

- Standard **U** - Tapped from Bottom

Profile Size

2 - 2 mm **7** - 7 mm **15** - 15 mm
3 - 3 mm **9** - 9 mm
5 - 5 mm **12** - 12 mm

Rail Width

M - Standard **W** - Wide

Block Length

N - Standard **L** - Long

Block Seals

SS - End Seal
ZZ - End Seal & Lube Storage
SU - End Seal & Bottom Seal
ZU - End Seal & Bottom Seal & Lube Storage
EE - End Seal & Reinforcement Plate
EZ - End Seal & Reinforcement Plate & Lube Storage
EU - End Seal & Reinforcement Plate & Stainless Bottom Seal
UZ - End Seal & Reinforcement Plate & Stainless Bottom Seal & Lube Storage
SUE - End Seal & Bottom Seal & Reinforcement Plate
ZUE - End Seal & Bottom Seal & Reinforcement Plate & Lube Storage

Preload Class

V0 - None **VS** - Standard **V1** - Medium

Accuracy Grade

N - Normal **H** - High **P** - Precision

Number of Blocks

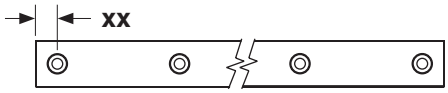
2 - Number of blocks on each rail

Rail Length

xxxx - Overall rail length (mm)

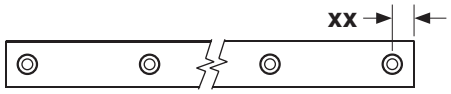
Start Hole

xx - Distance from end (mm)



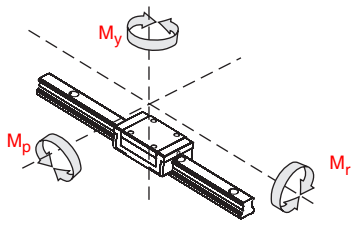
End Hole

xx - Distance from end (mm)



Load Capacities - MR series

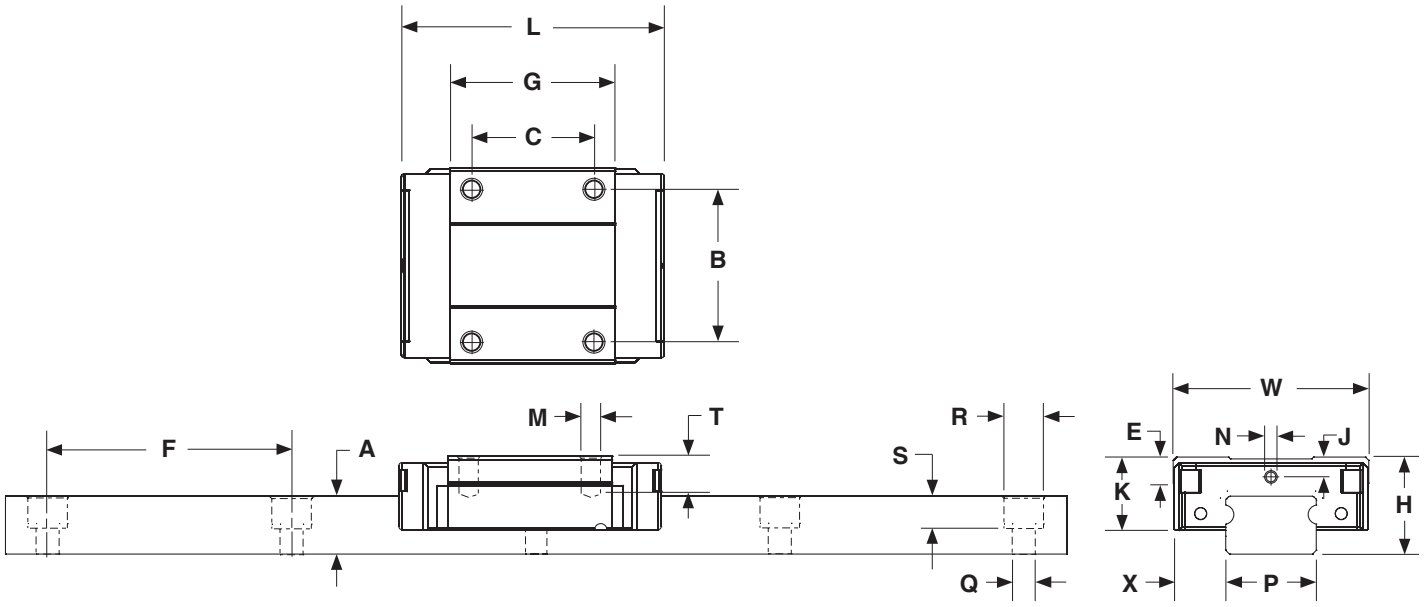
Model Number	Dynamic Load Capacity C_{50} (kN @ 50 km)	Static Load Capacity C_0 (kN)	Static Moment Loads		
			M_r (Nm)	M_p (Nm)	M_y (Nm)
MR 3 MN	.24	.31	.6	.4	.4
MR 3 WN	.35	.53	1.6	.9	.9
MR 3 ML	.37	.58	.9	1.1	1.1
MR 2 WL	.39	.62	1.6	1.2	1.2
MR 5 MN	.42	.55	1.7	1.0	1.0
MR 3 WL	.47	.80	2.5	1.9	1.9
MR 5 ML	.59	.90	2.4	2.1	2.1
MR 5 WN	.60	.90	4.6	2.2	2.2
MR 5 WL	.77	1.31	6.8	4.1	4.1
MR 7 MN	1.12	1.44	5.2	3.3	3.3
MR 7 WN	1.49	2.09	15.0	7.3	7.3
MR 7 ML	1.65	2.44	9.0	7.7	7.7
MR 7 WL	1.98	3.14	22.6	14.9	14.9
MR 9 MN	1.98	2.49	11.7	6.4	6.4
MR 9 WN	2.56	3.60	33.2	13.7	13.7
MR 9 ML	2.69	3.88	18.2	12.4	12.4
MR 12 MN	2.91	3.46	21.5	12.9	12.9
MR 9 WL	3.21	4.99	45.9	26.7	26.7
MR 12 WN	3.86	5.20	63.7	26.3	26.3
MR 12 ML	4.08	5.63	34.9	30.2	30.2
MR 15 MN	4.80	5.59	43.6	27.0	27.0
MR 12 WL	5.13	7.80	95.6	56.4	56.4
MR 15 WN	6.38	8.38	171.1	45.7	45.7
MR 15 ML	6.74	9.08	70.0	63.3	63.3
MR 15 WL	8.47	12.58	257.6	93.1	93.1



Convert **kN** to **lbs**, multiply by 224.81
Convert **Nm** to **llb-in**, multiply by 8.85

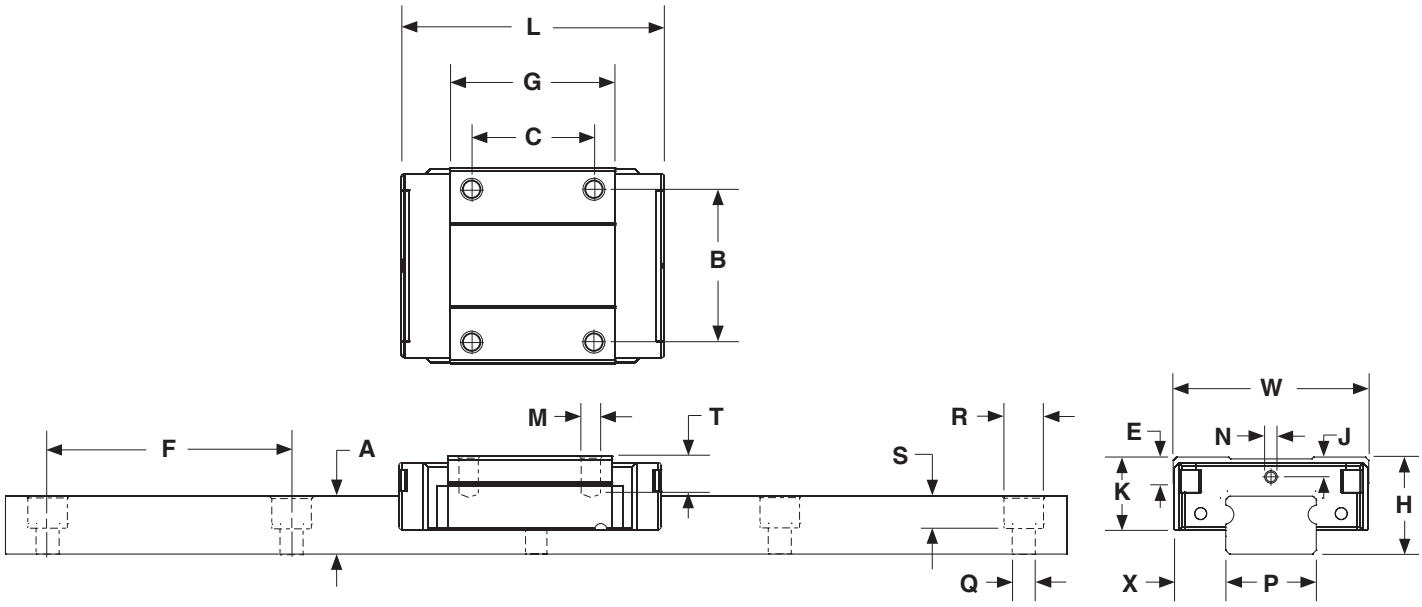
Dimensions & Specifications - SS / ZZ End Seals

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MRU 3 MN SS	4	8	11.9	-	3.5	M1.6 x 1.1	3.2	6.7	0.3	0.7	1.5	3	2.5	2.6	10	M1.6	0.9	53
MRU 3 ML SS			16.1		5.5	M2 x 1.1		11.0									1.2	
MR 5 MN SS/ZZ	6	12	16.3	8	-	M2 x 1.5	4.7	10.0	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5	116
MR 5 ML SS/ZZ			19.7	-	7	M2.6 x 2	4.6	13.5									4	
MR 7 MN SS/ZZ	8	17	24.1	12	8	M2 x 2.5	6.6	14.3	1.1	1.6	2.8	7	5.0	4.7	15	2.4 x 4.2 x 2.3	8	215
MR 7 ML SS/ZZ			31.5		13		6.7	21.8									14	
MR 9 MN SS/ZZ	10	20	30.9	15	10	M3 x 3.0	7.9	20.5	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18	301
MR 9 ML SS/ZZ			41.1		16		8.0	30.8									28	
MR 12 MN SS/ZZ	13	27	35.8	20	15	M3 x 3.5	10.1	22.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34	602
MR 12 ML SS/ZZ			47.8		20		10.2	34.0									51	
MR 15 MN SS/ZZ	16	32	43.4	25	20	M3 x 5.5	12.2	27.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61	930
MR 15 ML SS/ZZ			60.2		25			44.0									90	



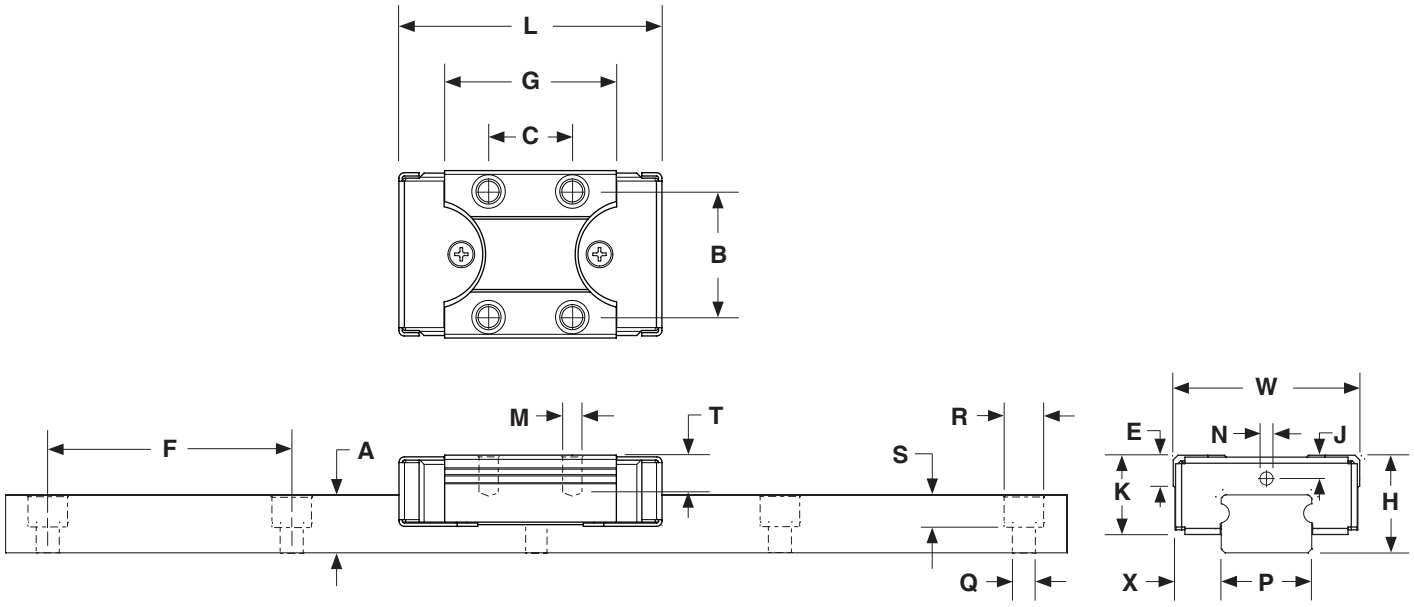
Dimensions & Specifications - SU / ZU End & Bottom Seals

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MRU 3 MN SU/ZU	4	8	11.8	-	3.5	M1.6 x 1.1	3.5	6.7	0.3	0.7	1.5	3	2.5	2.6	10	M1.6	0.9	53
MRU 3 ML SU/ZU			16.1		5.5	M2 x 1.1		11.0									1.2	
MR 5 MN SU/ZU	6	12	16.9	8	-	M2 x 1.5	4.9	10.0	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5	116
MR 5 ML SU/ZU			19.9	-	7	M2.6 x 2		13.5									4	
MR 7 MN SU/ZU	8	17	24.0	12	8	M2 x 2.5	7.0	14.3	1.1	1.6	2.8	7	5.0	4.7	15	2.4 x 4.2 x 2.3	8	215
MR 7 ML SU/ZU			31.4		13		6.9	21.8									14	
MR 9 MN SU/ZU	10	20	30.9	15	10	M3 x 3.0	8.3	20.5	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18	301
MR 9 ML SU/ZU			41.1		16		8.2	30.8									28	
MR 12 MN SU/ZU	13	27	35.7	20	15	M3 x 3.5	10.4	22.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34	602
MR 12 ML SU/ZU			48.0		20		10.5	34.0									51	
MR 15 MN SU/ZU	16	32	43.5	25	20	M3 x 5.5	12.5	27.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61	930
MR 15 ML SU/ZU			60.4		25			44.0									90	



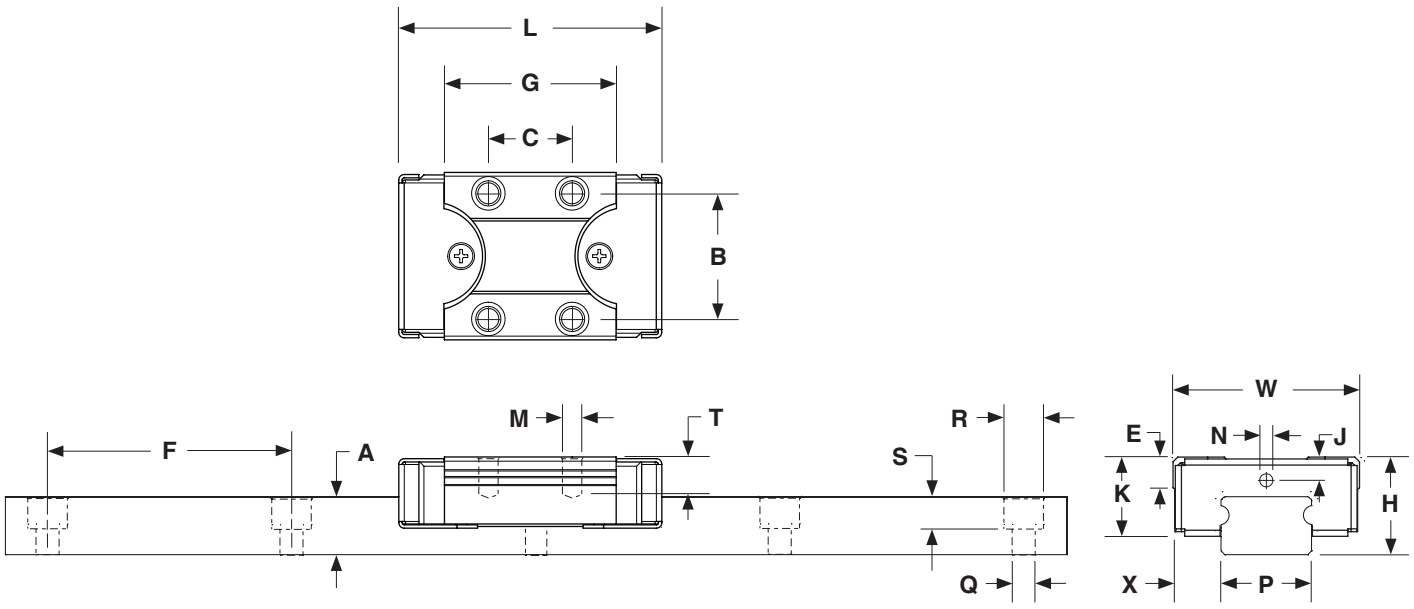
Dimensions & Specifications - EE / EZ End Seals & Reinforcement Plates

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 5 MN EE/EZ	6	12	16.9	8	-	M2 x 1.5	5.0	10.0	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5	116
MR 5 ML EE/EZ			20.4	-	7	M2.6 x 2		13.5									4	
MR 9 MN EE/EZ	10	20	31.7	15	10	M3 x 3.0	8.4	20.5	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18	301
MR 9 ML EE/EZ			42.0		16			30.8									28	
MR 12 MN EE/EZ	13	27	37.0	20	15	M3 x 3.5	10.9	22.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34	602
MR 12 ML EE/EZ			49.0		20			34.0									51	
MR 15 MN EE/EZ	16	32	45.2	25	20	M3 x 5.5	13.2	27.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61	930
MR 15 ML EE/EZ			62.1		25			44.0									90	



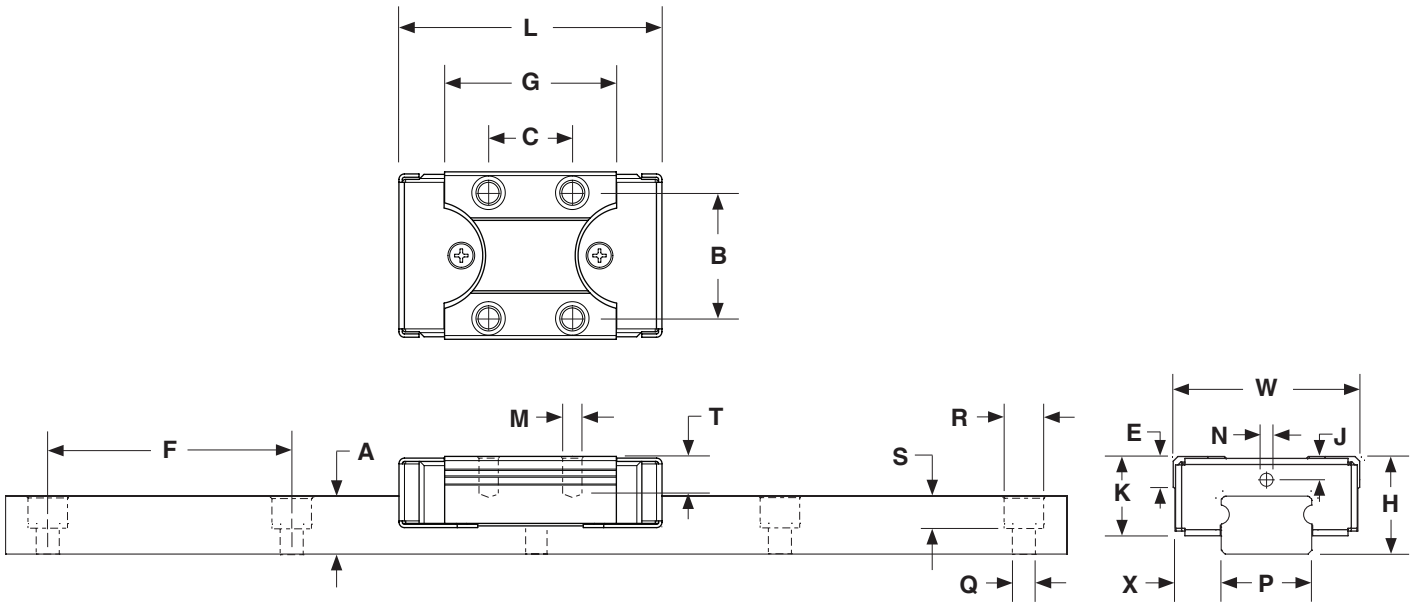
Dimensions & Specifications - EU / UZ End Seals & Reinforcement Plates & Stainless Steel Bottom Seals

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 9 MN EU/UZ	10	20	31.9	15	10	M3 x 3.0	8.5	20.5	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18	301
MR 9 ML EU/UZ			42.0		16			30.8									28	
MR 12 MN EU/UZ	13	27	37.0	20	15	M3 x 3.5	11.0	22.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34	602
MR 12 ML EU/UZ			49.0		20			34.0									51	
MR 15 MN EU/UZ	16	32	45.1	25	20	M3 x 5.5	13.1	27.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61	930
MR 15 ML EU/UZ			62.1		25		13.2	44.0									90	



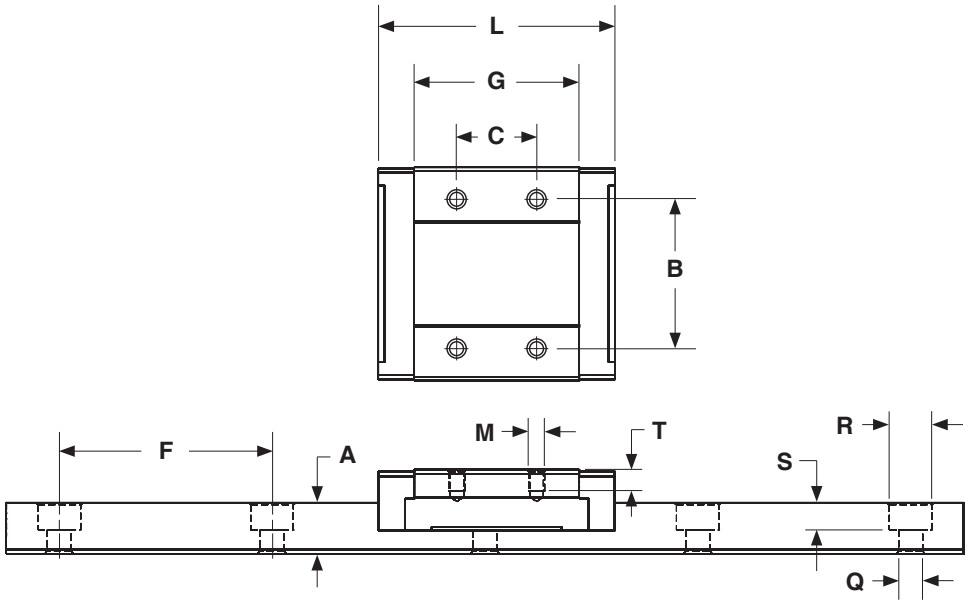
Dimensions & Specifications - SUE / ZUE End & Bottom Seals $ Reinforcement Plates

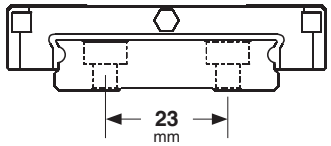
Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 5 MN SUE/ZUE	6	12	16.8	8	-	M2 x 1.5	5.0	10.0	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5	116
MR 5 ML SUE/ZUE			20.3	-	7	M2.6 x 2	5.1	13.5									4	
MR 9 MN SUE/ZUE	10	20	31.9	15	10	M3 x 3.0	8.7	20.5	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18	301
MR 9 ML SUE/ZUE			42.0		16		8.6	30.8									28	
MR 12 MN SUE/ZUE	13	27	37.0	20	15	M3 x 3.5	11.2	22.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34	602
MR 12 ML SUE/ZUE			49.0		20		11.1	34.0									51	
MR 15 MN SUE/ZUE	16	32	45.1	25	20	M3 x 5.5	13.3	27.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61	930
MR 15 ML SUE/ZUE			62.0		25		13.1	44.0									90	



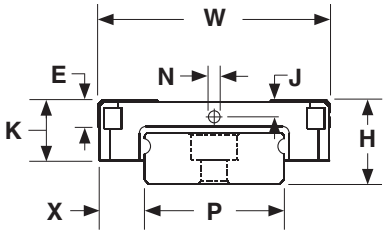
Dimensions & Specifications - SS / ZZ End Seals

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 2 WL SS/ZZ	4	10	17.4	-	6.5	M2 x 1.3	3.2	11.9	-	-	1.3	4	3	2.6	10	1.8 x 2.8 x 1	3.0	69
MR 3 WN SS	4.5	12	15.3	-	4.5	M2 x 1.4	3.9	10.0	0.3	0.8	1.8	6	3	2.7	15	2.4 x 4 x 1.5	3.4	105
MR 5 WN SS MR 5 WL SS	6.5	17	21.4 27.6	13	6.5 11	M2.5 x 1.5	5.1	15.1 21.2	0.9	1.2	2.3	10	3.5	4	20	3 x 5.5 x 1.6	6 8	280
MR 7 WN SS/ZZ MR 7 WL SS/ZZ	9	25	31.9 40.8	19	10 19	M3 x 3.0	7.1	21.2 30.1	1.1	1.9	3.2	14	5.5	5.2	30	3.5 x 6 x 3.5	19 27	516
MR 9 WN SS/ZZ MR 9 WL SS/ZZ	12	30	39.4 50.8	21 23	12 24	M3 x 3.0	8.8	27.9 39.4	1.3	2.6	4.0	18	6	7.3	30	3.5 x 6 x 4.5	37 51	940
MR 12 WN SS/ZZ MR 12 WL SS/ZZ	14	40	44.9 60.0	28	15 28	M3 x 3.5	10.3	31.1 46.0	1.4	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	65 93	1472
MR 15 WN SS/ZZ MR 15 WL SS/ZZ	16	60	55.7 74.9	45	20 35	M4 x 4.5	12.3	38.5 57.6	1.9	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	137 200	2818





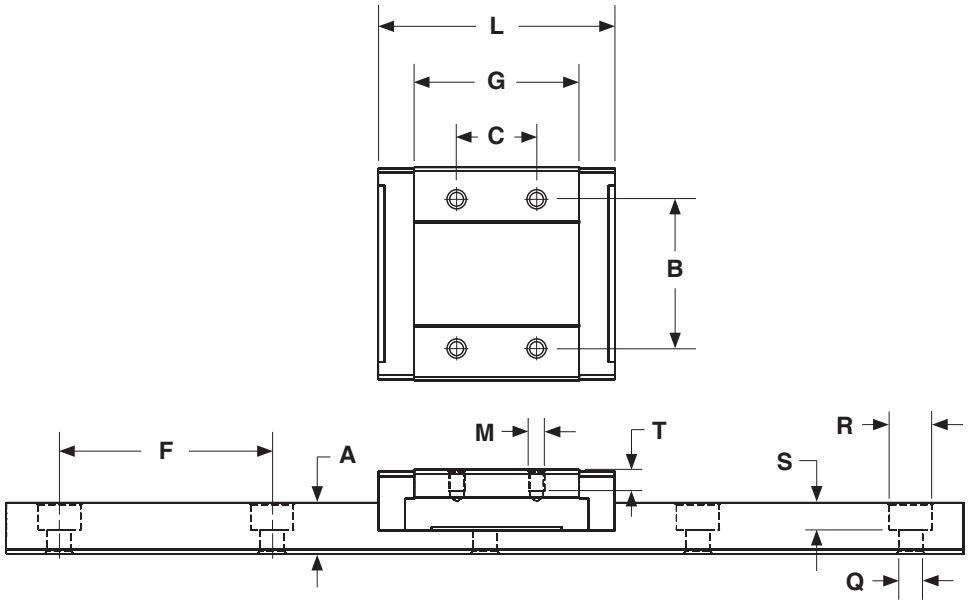
For **MR15W**

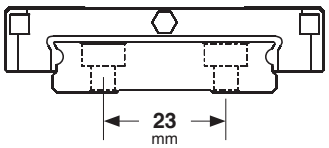


For **MR2W** thru **MR12W**

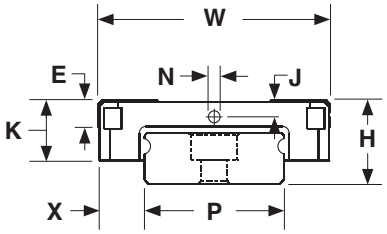
Dimensions & Specifications - SU / ZU End & Bottom Seals

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 2 WL SU/ZU	4	10	17.0	-	6.5	M2 x 1.3	3.1	11.9	-	-	1.3	4	3	2.6	10	1.8 x 2.8 x 1	3.0	69
MR 3 WN SU/ZU MR 3 WL SU/ZU	4.5	12	15.4 20.3	-	4.5 8	M2 x 1.4	3.9 4.0	10.0 15.1	0.3	0.8	1.8	6	3	2.7	15	2.4 x 4 x 1.5	3.4 3.4	105
MR 5 WN SU/ZU MR 5 WL SU/ZU	6.5	17	21.4 27.5	13	6.5 11	M2.5 x 1.5	5.4 5.5	15.1 21.2	0.9	1.2	2.3	10	3.5	4	20	3 x 5.5 x 1.6	6 8	280
MR 7 WN SU/ZU MR 7 WL SU/ZU	9	25	32.0 40.9	19	10 19	M3 x 3.0	7.3 7.4	21.2 30.1	1.1	1.9	3.2	14	5.5	5.2	30	3.5 x 6 x 3.5	19 27	516
MR 9 WN SU/ZU MR 9 WL SU/ZU	12	30	39.4 51.0	21 23	12 24	M3 x 3.0	9.1 9.0	27.9 39.5	1.3	2.6	4.0	18	6	7.3	30	3.5 x 6 x 4.5	37 51	940
MR 12 WN SU/ZU MR 12 WL SU/ZU	14	40	44.7 59.8	28	15 28	M3 x 3.5	10.5 10.7	31.0 46.0	1.3	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	65 93	1472
MR 15 WN SU/ZU MR 15 WL SU/ZU	16	60	55.7 74.8	45	20 35	M4 x 4.5	12.6	38.5 57.6	1.8	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	137 200	2818





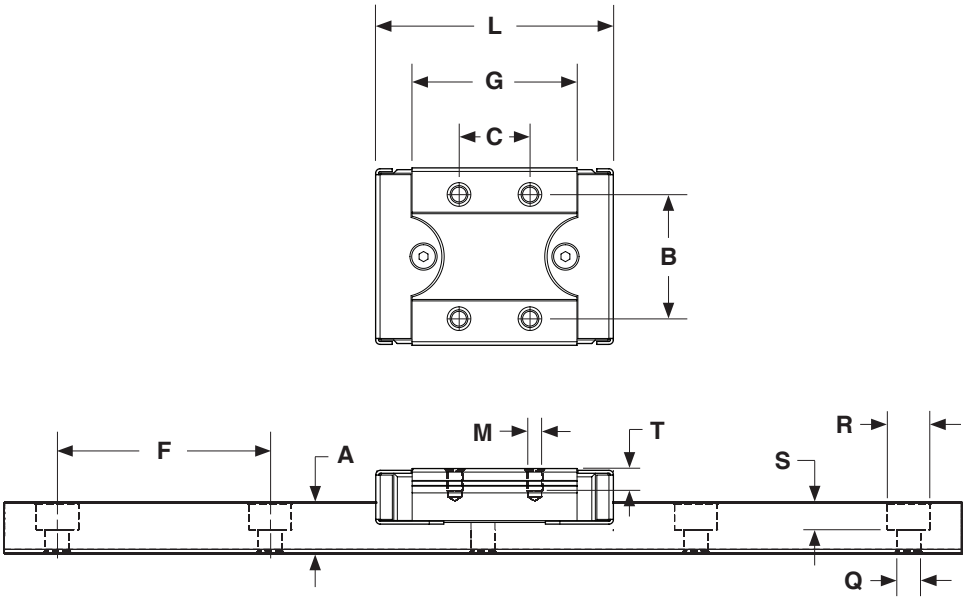
For **MR15W**

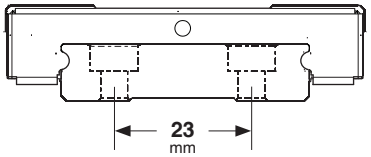


For **MR2W** thru **MR12W**

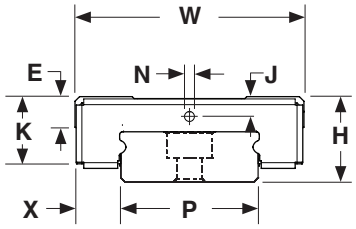
Dimensions & Specifications - EE / EZ End Seals & Reinforcement Plates

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 2 WL EE/EZ	4	10	17.9	-	6.5	M2 x 1.3	3.5	11.9	-	-	1.3	4	3	3	10	1.8 x 2.8 x 1	3.0	69
MR 7 WN EE/EZ	9	25	32.8	19	10	M3 x 3.0	7.6	21.2	1.1	1.9	3.2	14	5.5	5.2	30	3.5 x 6 x 3.5	19	516
MR 7 WL EE/EZ			41.7		19		7.8	30.1									27	
MR 9 WN EE/EZ	12	30	40.4	21	12	M3 x 3.0	9.5	27.9	1.3	2.6	4.0	18	6	7.3	30	3.5 x 6 x 4.5	37	940
MR 9 WL EE/EZ			51.9	23	24		9.4	39.5									51	
MR 12 WN EE/EZ	14	40	46.2	28	15	M3 x 3.5	11.2	31.0	1.3	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	68	1472
MR 12 WL EE/EZ			61.3		28			46.0									96	
MR 15 WN EE/EZ	16	60	57.4	45	20	M4 x 4.5	12.9	38.5	1.8	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	140	2818
MR 15 WL EE/EZ			76.6		35		13.0	57.6									203	





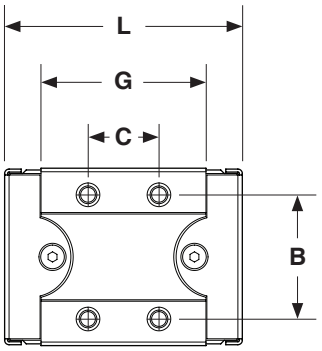
For **MR15W**

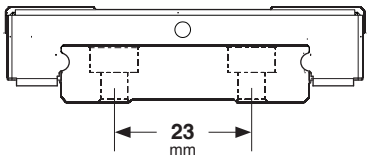


For **MR2W** thru **MR12W**

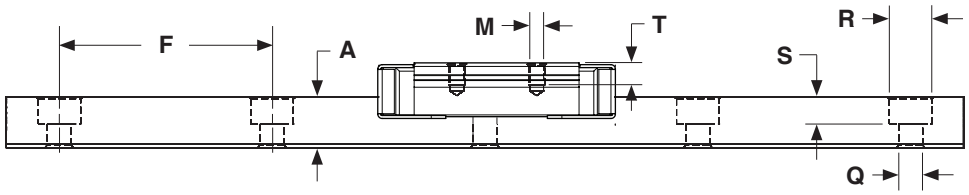
Dimensions & Specifications - EU / UZ End Seals & Reinforcement Plates & Stainless Steel Bottom Seals

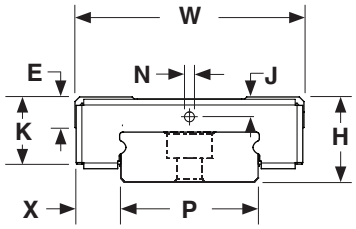
Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 9 WN EU/UZ	12	30	40.4	21	12	M3 x 3.0	9.6	27.9	1.3	2.6	4.0	18	6	7.3	30	3.5 x 6 x 4.5	37	940
MR 9 WL EU/UZ			51.9	23	24		9.4	39.5									51	
MR 12 WN EU/UZ	14	40	46.1	28	15	M3 x 3.5	11.3	31.0	1.3	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	68	1472
MR 12 WL EU/UZ			61.2		28		11.2	46.0									96	
MR 15 WN EU/UZ	16	60	57.6	45	20	M4 x 4.5	13.2	38.5	1.8	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	140	2818
MR 15 WL EU/UZ			76.7		35		13.0	57.6									203	





For **MR15W**

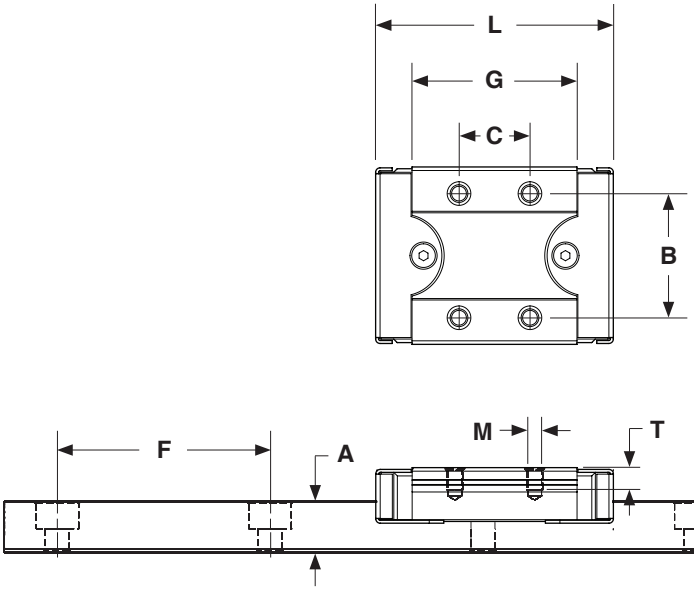


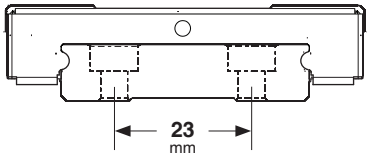


For **MR2W** thru **MR12W**

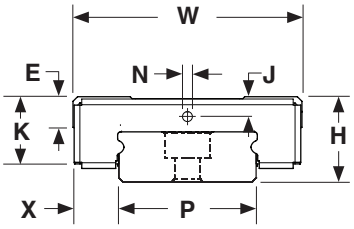
Dimensions & Specifications - SUE / ZUE End & Bottom Seals & Reinforcement Plates

Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MR 2 WL SUE/ZUE	4	10	17.5	-	6.5	M2 x 1.3	3.4	11.9	-	-	1.3	4	3	3	10	1.8 x 2.8 x 1	3.0	69
MR 7 WN SUE/ZUE	9	25	32.8	19	10	M3 x 3.0	7.9	21.2	1.1	1.9	3.2	14	5.5	5.2	30	3.5 x 6 x 3.5	19	516
MR 7 WL SUE/ZUE			41.6		19			30.1									27	
MR 9 WN SUE/ZUE	12	30	40.4	21	12	M3 x 3.0	9.5	27.9	1.3	2.6	4.0	18	6	7.3	30	3.5 x 6 x 4.5	37	940
MR 9 WL SUE/ZUE			51.9	23	24		9.6	39.5									51	
MR 12 WN SUE/ZUE	14	40	46.1	28	15	M3 x 3.5	11.5	31.0	1.3	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	68	1472
MR 12 WL SUE/ZUE			61.1		28		11.4	46.0									96	
MR 15 WN SUE/ZUE	16	60	57.5	45	20	M4 x 4.5	13.2	38.5	1.8	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	140	2818
MR 15 WL SUE/ZUE			76.5		35			57.6									203	





For **MR15W**



For **MR2W** thru **MR12W**

Unit Conversions

Torque Conversions

Present Units	Convert To	Multiply By
Gram-centimeters	newton-meters	0.0000981
Gram-centimeters	ounce-inches	0.0138874
Gram-centimeters	pound-inches	0.000868
Gram-centimeters	pound-feet	0.0000723
Newton-meters	gram-centimeters	10,197.162
Newton-meters	ounce-inches	141.612
Newton-meters	pound-inches	8.85
Newton-meters	pound-feet	0.73756
Ounce-inches	gram-centimeters	72.0077
Ounce-inches	newton-meters	0.007062
Ounce-inches	pound-inches	0.0625
Ounce-inches	pound-feet	0.005208
Pound-inches	gram-centimeters	1,152.0
Pound-inches	newton-meters	0.11299
Pound-inches	ounce-inches	16.0
Pound-inches	pound-feet	0.08333
Pound-feet	gram-centimeters	13,825.5
Pound-feet	newton-meters	1.3558
Pound-feet	ounce-inches	192.0
Pound-feet	pound-inches	12.0

Distance Conversions

Present Units	Convert To	Multiply By
Arc-minutes	degrees	0.016666
Arc-seconds	degrees	0.000277
Centimeters	inches	0.3937
Centimeters	feet	0.03280
Centimeters	microns	10,000.0
Degrees	arc-minutes	60.0
Degrees	arc-seconds	3,600.0
Degrees	radians	0.017453
Feet	centimeters	30.48
Feet	meters	0.3048
Inches	centimeters	2.54
Inches	Km	0.0000254
Inches	meters	0.0254
Inches	microns	25,400.0
Inches	millimeters	25.4
Km	inches	39,370.0
Meters	feet	3.2808
Meters	inches	39.37
Meters	microns	1,000,000.0
Microns	centimeters	0.0001
Microns	inches	0.00003937
Microns	meters	0.000001
Microns	millimeters	0.001
Millimeters	inches	0.03937
Millimeters	microns	1,000.0
Radians	degrees	57.295779

Reference : *Handbook of Tables for Applied Engineering Science*

Inertia Conversions

Present Units	Convert To	Multiply By
Gram-cm^2	ounce-inches^2	0.00546745
Gram-cm^2	ounce-inch-sec^2	0.000014161
Gram-cm^2	pound-inches^2	0.000341716
Gram-cm^2	pound-inch-sec^2	0.000000885
Gram-cm^2	pound-feet-sec^2	0.000000074
Ounce-inches^2	gram-cm^2	182.901
Ounce-inches^2	ounce-inch-sec^2	0.00259008
Ounce-inches^2	pound-inches^2	0.0625
Ounce-inches^2	pound-inch-sec^2	0.00016188
Ounce-inches^2	pound-feet-sec^2	0.00001349
Ounce-inch-sec^2	gram-cm^2	70,615.4
Ounce-inch-sec^2	ounce-inches^2	386.0
Ounce-inch-sec^2	pound-inches^2	24.13045
Ounce-inch-sec^2	pound-inch-sec^2	0.0625
Ounce-inch-sec^2	pound-feet-sec^2	0.00520833
Pound-inches^2	gram-cm^2	2,926.41
Pound-inches^2	ounce-inches^2	16.0
Pound-inches^2	ounce-inch-sec^2	0.0414413
Pound-inches^2	pound-inch-sec^2	0.00259008
Pound-inches^2	pound-feet-sec^2	0.00021584
Pound-inch-sec^2	gram-cm^2	1,129,850.0
Pound-inch-sec^2	ounce-inches^2	6,177.4
Pound-inch-sec^2	ounce-inch-sec^2	16.0
Pound-inch-sec^2	pound-inches^2	386.0
Pound-inch-sec^2	pound-feet-sec^2	0.0833333
Pound-feet-sec^2	gram-cm^2	13,558,200.0
Pound-feet-sec^2	ounce-inches^2	74,128.9
Pound-feet-sec^2	ounce-inch-sec^2	192.0
Pound-feet-sec^2	pound-inches^2	4,633.06
Pound-feet-sec^2	pound-inch-sec^2	12.0

Load Conversions

Present Units	Convert To	Multiply By
Grams	newtons	0.009806
Grams	ounces	0.03528
Grams	pounds	0.002204
Kilograms	pounds	2.2046
Newtons	grams	101.971
Newtons	ounces	3.59692
Newtons	pounds	0.224808
Ounces	grams	28.3495
Ounces	newtons	0.27802
Ounces	pounds	0.0625
Pounds	grams	453.592
Pounds	kilograms	0.45359
Pounds	newtons	4.44824
Pounds	ounces	16.0
Pounds	tons	0.0005
Tons	pounds	2,000.0

Terms of Sale

To Order

Any standard, or custom, product from *LINTECH* may be ordered by mail, email, on-line, phone, or fax from an Automation Specialist in your area. To obtain the name of your local Automation Specialist call:

LINTECH®

1845 Enterprise Way
Monrovia, CA 91016

Toll Free: (800) 435 - 7494
Phone: (626) 358 - 0110
Fax: (626) 303 - 2035

Web Site: www.LintechMotion.com
E-Mail: Lintech@LintechMotion.com

All required options should be reviewed using the part numbering guide for each model series. Your local Automation Specialist or factory personnel can assist you with any questions you may have.

Delivery

All shipping promises are made in good faith. Any shipping dates appearing on acknowledgments of orders or given to a customer in any other manner are approximate. Where the customer delays in supplying information necessary to proceeding with an order, the date of shipment may be extended accordingly. Standard products from *LINTECH* are usually available for delivery within 1 to 6 weeks of receipt of a purchase order. However, component shortages, labor disputes, or any other unforeseen circumstance may delay the delivery of an order. *LINTECH* shall not be held liable under any circumstance. All products are shipped F.O.B. Monrovia, CA. *LINTECH* packages all standard and custom products carefully. However, *LINTECH* is not liable for damage incurred during shipment. Contact the carrier immediately if damage to a package or shipment is noticed upon receipt of such shipment.

Payment Terms

Unless otherwise specified, payment shall be made by C.O.D, credit card (AMEX, Visa, or Master Card), or net thirty (30) days (pending credit approval) from date of shipment of the items purchased hereunder in U.S. currency. *LINTECH* reserves the right to require deposit payments on non-standard items, customs, or product built to Buyer's designs or specifications. Amounts not timely paid shall bear interest at the rate of 1.5% for each month or a portion thereof that Buyer is late in making payments. No responsibility is assumed by *LINTECH* for damages arising from delivery delays, fires, strikes, material shortages, accidents, or any other cause whatsoever, and purchase orders are accepted subject only to these conditions irrespective of statements or stipulations on purchase orders.

Minimum Order Amount

LINTECH requires a minimum of $30 List Price U.S. currency on all orders.

Warranty

All *LINTECH* products are guaranteed to be free from defects in material and workmanship, under normal use, for a period of one year after date of shipment. This warranty covers the repair or replacement of a product when it is sent prepaid to *LINTECH*. *LINTECH* does not assume liability for installation, abuse, alteration, insufficient application data provided for a design, or misuse of any positioning system. Products furnished by LINTECH, but not manufactured by *LINTECH* (motors, gearheads, encoders, amplifiers, etc....), are subject to the manufacturers standard warranty terms and conditions.

Returns

Any product requiring a return to *LINTECH* (for warranty or non-warranty repair) requires pre-approval from the factory prior to shipment. Contact the customer service department at (800) 435-7494 in order to obtain a RMA (Return Materials Authorization) number. At that time, please have your system Model & Serial numbers available, along with the reason for the return. The RMA number should be clearly marked on the returned package label and your packing list, or shipping document. Return product freight prepaid in its original package or one with comparable protection. *LINTECH* will not accept return shipments sent freight collect. Product damage incurred during return shipment, from poor packaging, will not be warranted by *LINTECH*. Keeping original packing materials is recommended until initial inspection and testing is completed.

Dimensions and Product Changes

Published dimensions shown in *LINTECH* catalogs are known to be accurate at time of printing. *LINTECH* shall not be held liable, under any circumstances, for any wrongly documented dimension or specification. Changes in design are made whenever *LINTECH* believes its products will improve by the change. No obligation to incorporate these changes in units manufactured prior to a change will be assumed.

Cancellations

All items entered for production and on which a cancellation is requested shall be paid for on the basis of actual cost of labor, materials, and supplies applied to the production of such items plus proper overhead expenses determined in accordance with good accounting practice, plus 25% of the total of such cost and expenses; provided that such cost and expense plus 25% shall in no case exceed 100% of the quoted price of original order. Upon cancellation, *LINTECH* may dispose of materials used in the manufacture of cancelled order as it sees fit.

Mechanical Motion Solutions

For over 50 years, LINTECH® has designed and manufactured numerous standard and custom mechanical motion control products that are used in a wide range of applications and markets. This document highlights cut to length round rail precision shafting, round rail linear bearings (with or without pillow blocks), steel & aluminum shaft supports, shaft assemblies (single & TWINRAIL®), TWINRAIL® carriage assemblies, profile rail linear guides, rolled & ground ball screw assemblies, acme & ball screw driven actuators, belt driven slides, worm gear driven rotary tables, and a wide range of custom positioning assemblies.

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YOUR LOCAL AUTOMATION SPECIALIST: