

**LINTECH<sup>®</sup>**

***Miniature  
Profile Rails***



# Welcome to *LINTECH*®



For over 44 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*®

1845 Enterprise Way  
Monrovia, CA. 91016

Toll Free: (800) 435 - 7494

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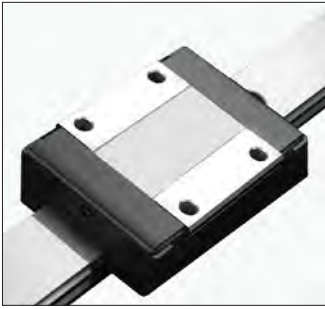
version: 07/2015

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- \* Miniature Rail
- \* 2 rows of re-circulating balls
- \* Equal loading in all directions
- \* Dust proof design

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

**Series Type**

- MR** - Miniature linear guide standard rail
- MRU** - Miniature linear guide threaded rail

**Profile Size**

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

**Rail Width**

- M** - Standard      **W** - Wide

**Block Length**

- N** - Standard      **L** - Long

**Block Seals**

- SS** - End Seal
- SU** - End & Bottom Seal
- ZU** - End & Bottom Seal & Lubrication Storage
- SUE** - End & Bottom Seal & Reinforcement Plate
- ZUE** - End & Bottom Seal & Reinforcement Plate & Lubrication 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)

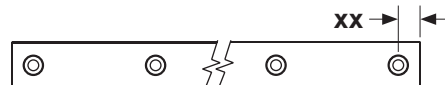
**Start Hole**

- xx** - Distance from end (mm)



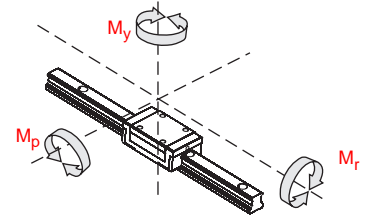
**End Hole**

- xx** - Distance from end (mm)



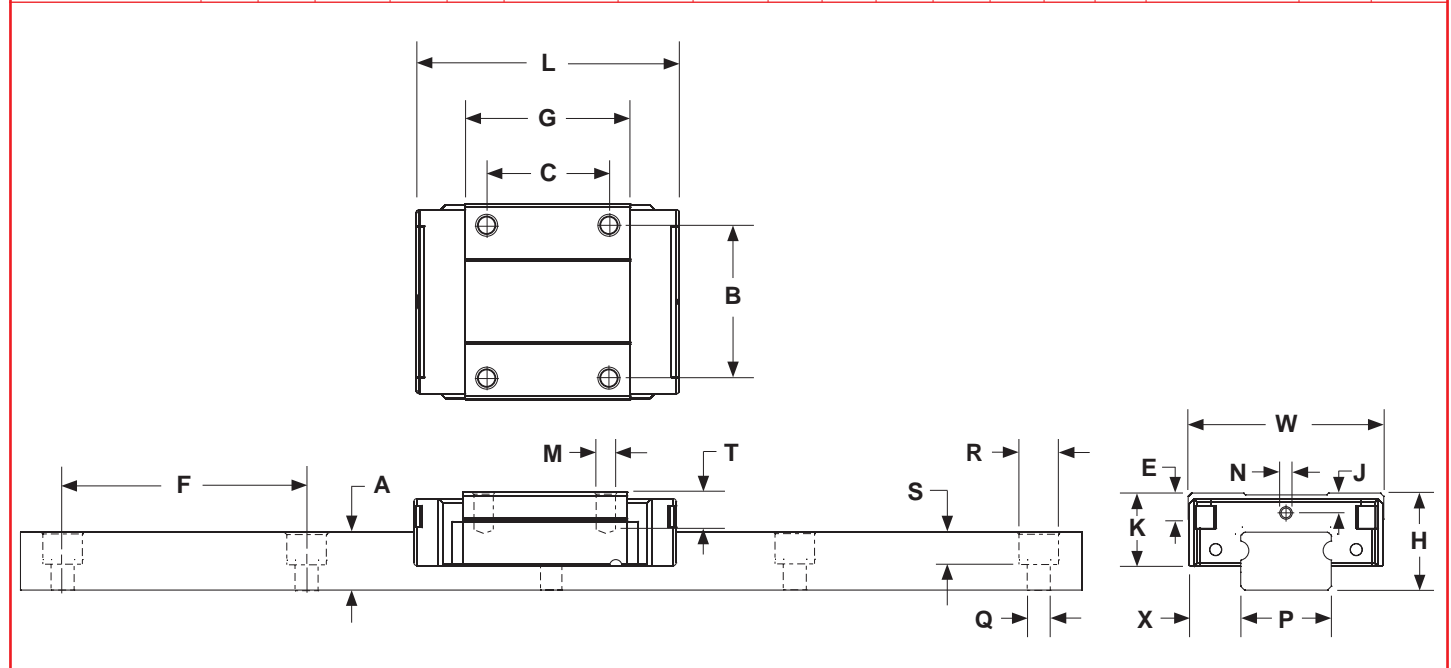
## Load Capacities - MR series

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)
MRU 3 MN	.24	.31	.6	.4	.4
MR 3 WN	.35	.53	1.6	.9	.9
MRU 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	1.97	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



## Dimensions & Specifications - with End and Bottom Seals

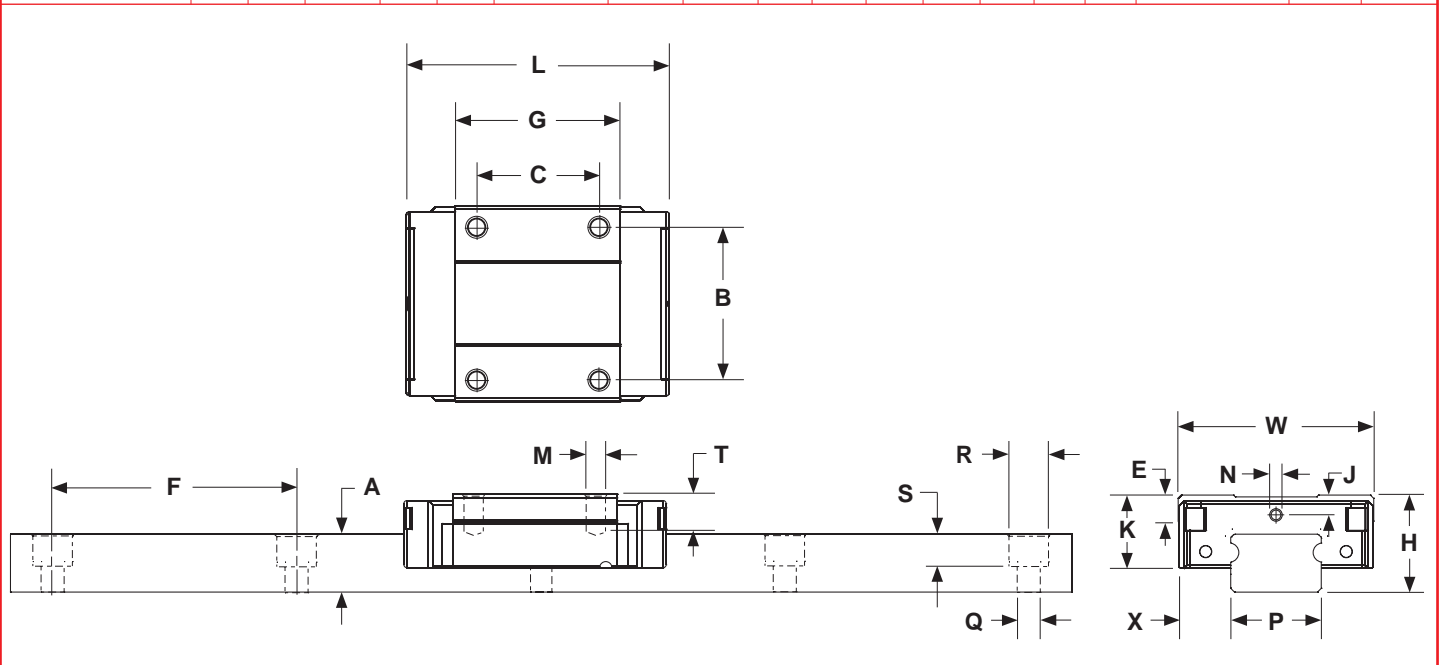
Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)					Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)
MRU3MNSS MRU3MLSS	4	8	11.7 16.0	-	3.5 5.5	M1.6 x 1.1 M2 x 1.1	3.1	6.7 11.0	0.3	0.7	1.5	3	2.5	2.6	10	M1.6	0.9 1.2	53
MR5MNSU/ZU MR5MLSU/ZU	6	12	16.0 19.6	8	- 7	M2 x 1.5 M2.6 x 2	4.6	10.0 13.5	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5 4	116
MR7MNSU/ZU MR7MLSU/ZU	8	17	23.7 31.2	12	8 13	M2 x 2.5	6.7	14.3 21.8	1.1	1.6	2.8	7	5.0	4.7	15	2.4 x 4.2 x 2.3	8 14	215
MR9MNSU/ZU MR9MLSU/ZU	10	20	30.6 40.9	15	10 16	M3 x 3.0	8.0	20.5 30.8	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18 28	301
MR12MNSU/ZU MR12MLSU/ZU	13	27	35.4 47.6	20	15 20	M3 x 3.5	10.2	22.0 34.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34 51	602
MR15MNSU/ZU MR15MLSU/ZU	16	32	43.0 60.0	25	20 25	M3 x 5.5	12.3	27.0 44.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61 90	930





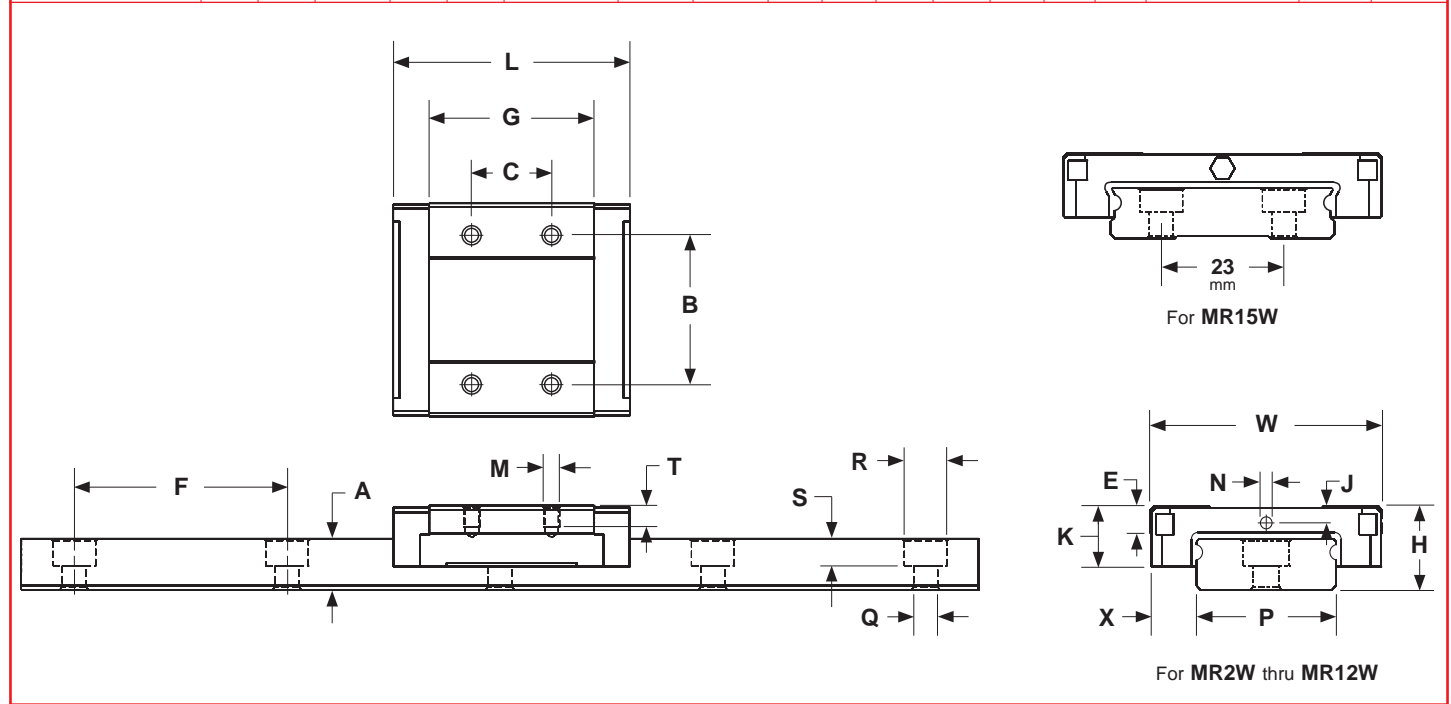
## Dimensions & Specifications - with End and Bottom Seals plus Reinforcement Plate

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 MR 5 ML SUE/ZUE	6	12	16.6 20.2	8	-	M2 x 1.5 M2.6 x 2	5.0	10.0 13.5	0.7	1.3	2.0	5	3.5	3.5	15	2.4 x 3.5 x 1	3.5 4	116
MR 9 MN SUE/ZUE MR 9 ML SUE/ZUE	10	20	31.6 41.9	15	10 16	M3 x 3.0	8.5	20.5 30.8	1.3	2.2	3.3	9	5.5	5.5	20	3.5 x 6 x 3.5	18 28	301
MR 12 MN SUE/ZUE MR 12 ML SUE/ZUE	13	27	36.8 49.0	20	15 20	M3 x 3.5	10.9	22.0 34.0	1.3	3.2	4.3	12	7.5	7.5	25	3.5 x 6 x 4.5	34 51	602
MR 15 MN SUE/ZUE MR 15 ML SUE/ZUE	16	32	44.6 61.6	25	20 25	M3 x 5.5	13.1	27.0 44.0	1.8	3.3	4.3	15	8.5	9.5	40	3.5 x 6 x 4.5	61 90	930



## Dimensions & Specifications - with End and Bottom Seals

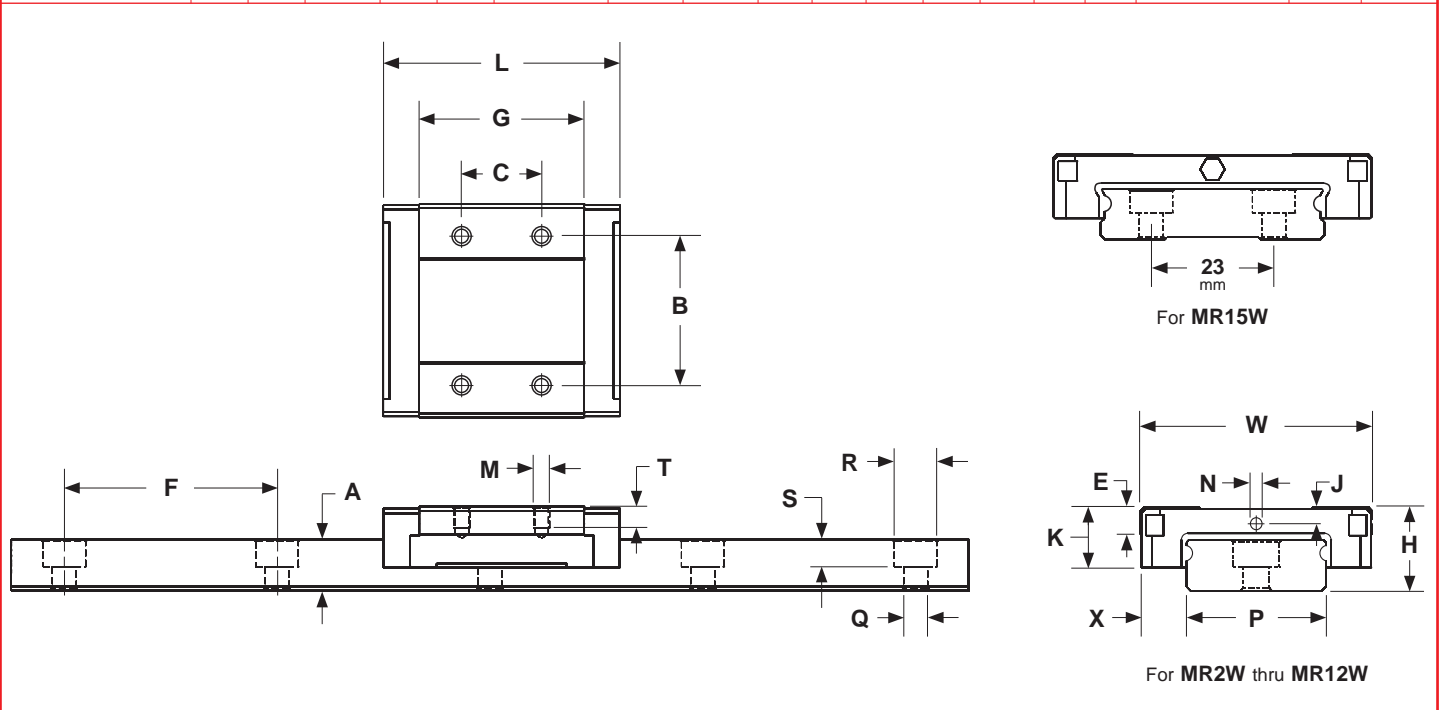
Model Number	Outline (mm)			Block Dimensions (mm)								Rail Dimensions (mm)						Weight	
	Height H	Width W	Length L	B	C	M x T	K	G	N	J	E	P	X	A	F	Q x R x S	Block (g)	Rail (g/m)	
MR 2 WL SU/ZU	4	10	17.0	-	6.5	M2 x 1.3	3.1	11.9	-	-	1.3	4	3	3	10	1.8 x 2.8 x 1	3.0	69	
MR 3 WN SU/ZU MR 3 WL SU/ZU	4.5	12	15.0 20.1	-	4.5 8	M2 x 1.4	3.6	10.0 15.1	0.3	0.8	1.8	6	3	2.7	18	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	21.1 27.2	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 SU/ZU MR 7 WL SU/ZU	9	25	31.6 40.5	19	10 19	M3 x 3.0	7.2	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	39.1 50.7	21 23	12 24	M3 x 3.0	8.8	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	44.4 59.4	28	15 28	M3 x 3.5	10.4	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	55.3 74.4	45	20 35	M4 x 4.5	12.3	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	





## Dimensions & Specifications - with End and Bottom Seals plus Reinforcement Plate

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 MR 7 WL SUE/ZUE	9	25	32.5 41.5	19	10 19	M3 x 3.0	7.6	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 SUE/ZUE MR 9 WL SUE/ZUE	12	30	40.2 51.8	21 23	12 24	M3 x 3.0	9.4	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 SUE/ZUE MR 12 WL SUE/ZUE	14	40	45.8 60.8	28	15 28	M3 x 3.5	11.2	31.0 46.0	1.3	3.1	4.5	24	8	8.5	40	4.5 x 8 x 4.5	68 96	1472
MR 15 WN SUE/ZUE MR 15 WL SUE/ZUE	16	60	56.9 76.0	45	20 35	M4 x 4.5	13.1	38.5 57.6	1.8	3.3	4.5	42	9	9.5	40	4.5 x 8 x 4.5	140 203	2818



# 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

## Inertia Conversions

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

Reference : Handbook of Tables for Applied Engineering Science

# Terms of Sale

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## 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](http://www.LintechMotion.com)  
E-Mail: [Lintech@LintechMotion.com](mailto: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 44 years, *LINTECH*<sup>®</sup> 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*<sup>®</sup>), *TWINRAIL*<sup>®</sup> carriage assemblies, profile rail linear bearings, 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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