



Purpose

To provide dimension and specification information for the Series 3 Top Running Double Girder Crane Systems.

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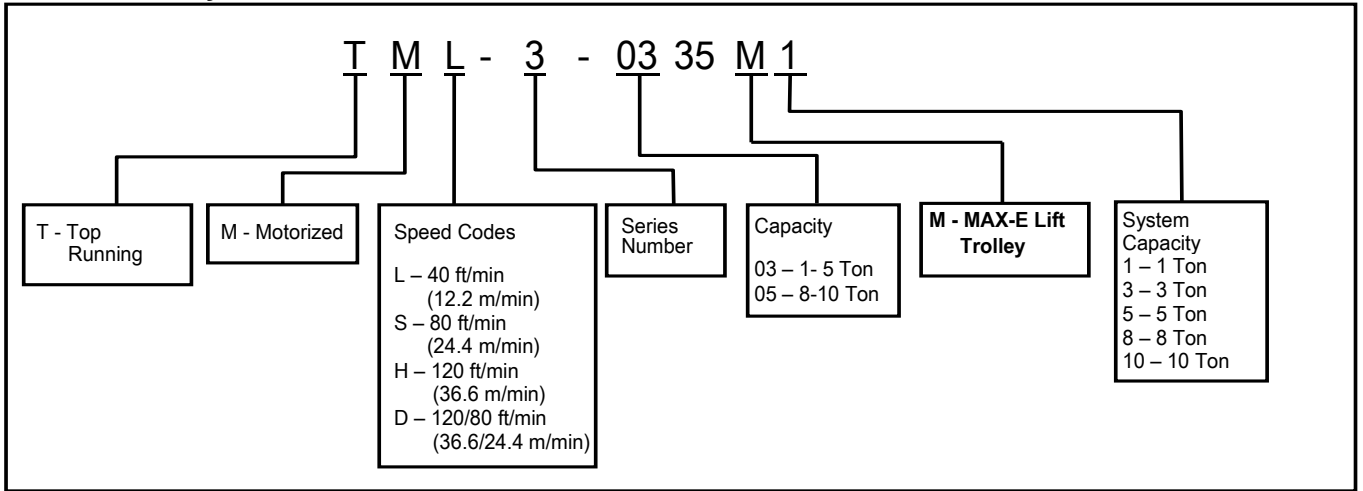
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Technical Information

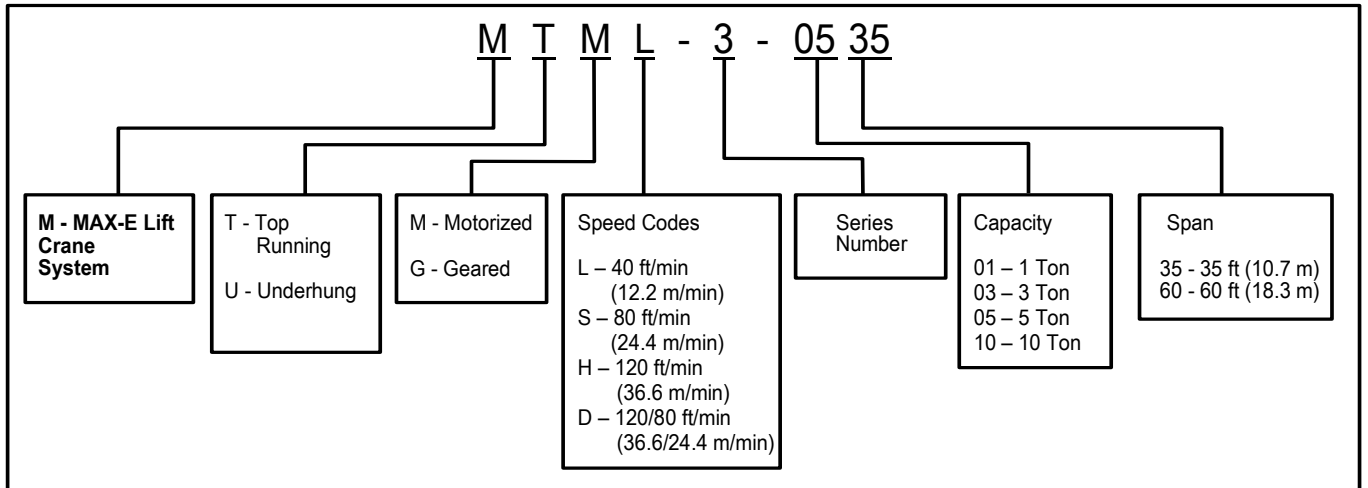
System Maximum Wheel Load	This value is given in lbs (or kg) per wheel for Top Runners. It is the maximum load that a wheel (or pair of wheels) will experience for the standard Harrington crane in question. It takes into consideration the weight of the crane and its appurtenances, as well as the hoist/trolley and its load located at its maximum end approach. The value listed in the charts is for a crane with maximum span and capacity, and with Harrington's standard ER2 hoist/Max-E trolley configured for 50 ft of lift with a steel chain container.
Clearance	OSHA regulations require minimum clearances between the crane and stationary obstructions. In the vertical direction this minimum clearance is 3 inches (76mm) from the upper most part of the crane. In the horizontal direction this minimum clearance is 2 inches (51mm) in any direction from any part of the crane.
Crane Service Class	The Crane Manufacturer's Association of America (CMAA) has established seven service classes for cranes. These classes are Class A through Class E, and are based on load cycles and load magnitude. Class A cranes are suited for the least severe service, and Class E cranes are suited for the most severe service.
Class C Service Class	The load cycle and magnitude combinations that define the Class C Service Class are: <ul style="list-style-type: none">• Load is usually between 1/3 and 2/3 of rated capacity, and is frequently equal to rated capacity, and design service life is 20,000 to 200,000 cycles.• Load is usually 1/3 of rated capacity and is rarely equal to rated capacity, and design service life is 200,000 to 600,000 cycles.• Load is usually very light and rarely is equal to rated capacity, and design service life is 600,000 to 2,000,000 cycles
Span to Length Ratio	The CMAA has established maximum recommended values for the ratio of a crane's span to its end truck's length. For Double Girder Cranes this value is 7 to 1. Harrington's cranes meet this based on the end truck's roller base.

Product Code:

Max-E Trolley

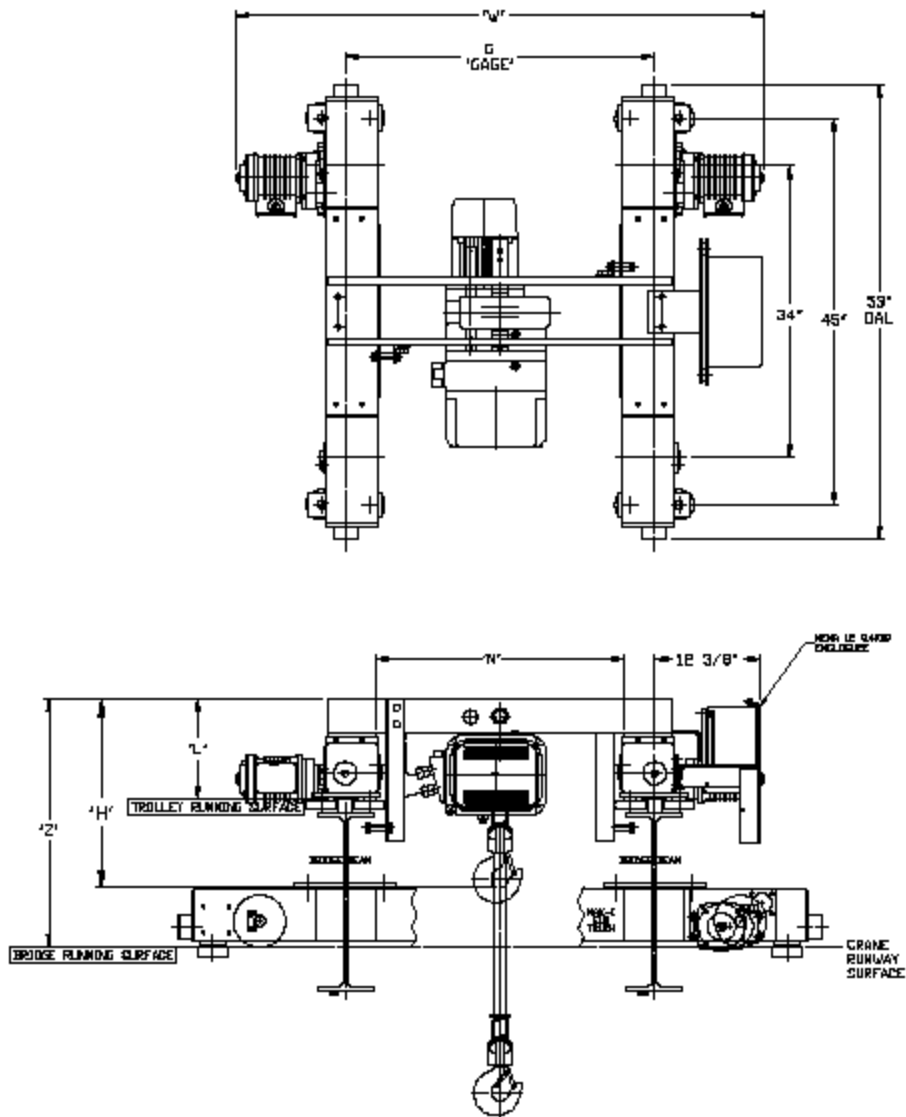


Series 3 End Truck



MAX-E Trolley Dimensions

Because of the basic concept of the "MAX-E-LIFT" system, the word 'headroom' as usually used in the crane and hoist industry is not meaningful in this system. The important dimension is the system's total height "H" which is the total distance from the top of the trolley to the inside of the load hook in its uppermost position as shown in the above illustration. This important dimension, which is the true meaning of the height to which a load can be lifted, is one of the lowest in the industry. The following drawing and chart also shows other dimensions of interest.



MAX-E Trolley Dimensions (Imperial)

Capacity (Tons)	Model	Lift Speed (fpm)	Z (in)	H (in)	L (in)	W (in)		G (in)	N (in)
						Single Speed	Dual Speed		
1	L	14	28 11/16	17 9/32	11 3/4	61 1/2	64 1/8	36	29
	LD	14/2.5		17 5/16					
	S	28							
	SD	28/4.5							
2	L	14	28 11/16	22 9/32	11 3/4	61 1/2	64 1/8	36	29
	LD	14/2.5		23 1/8					
	S	28		27 3/32					
	SD	28/4.5							
	C	7							
	CD	7/1							
3	L	16	29 11/16	25 15/16	12 3/4	61 1/2	64 1/8	36	29
	LD	17/6		28 7/16					
	C	17		28 7/8					
	CD	17/3							
5	L	12	31 15/16	32 5/16	12 3/4	61 1/2	64 1/8	36	29
	LD	12/4		34 21/32					
8	S	7.5	41 1/2	43 1/2	16 1/8	77 13/16	79 1/8	52	44 1/2
	SD	7.5/2.5							
10	L	5.5	41 1/2	43 11/16	16 1/8	77 13/16	79 1/8	52	44 1/2
	LD	5.5/2							
	S	11							
	SD	11/3.5							

MAX-E Trolley Dimensions (Metric)

Capacity (Tons)	Model	Lift Speed (mpm)	Z (mm)	H (mm)	L (mm)	W (mm)		G (mm)	N (mm)
						Single Speed	Dual Speed		
1	L	4.3	729	439	298	1562	1588	914	737
	LD	4.3/0.8		440					
	S	8.5							
	SD	8.5/1.4							
2	L	4.3	729	566	298	1562	1588	914	737
	LD	4.3/0.8		587					
	S	8.5		688					
	SD	8.5/1.4							
	C	2.1							
3	L	4.9	754	659	324	1562	1588	914	737
	LD	5.2/1.8		722					
	C	5.2		733					
	CD	5.2/1							
5	L	3.7	811	821	324	1562	1588	3914	737
	LD	3.7/1.2		880					
8	S	2.3	1054	1105	410	1976	2010	1321	1130
	SD	2.3/.8							
10	L	1.7	1054	1110	410	1976	2010	1321	1130
	LD	1.7/.6							
	S	3.4							
	SD	3.4/1.1							

Series 3 Top Running Motorized Specifications (Imperial)

End Truck Product Code	One Motor Per End Truck, 3 Phase 60 Hz									System Max. Wheel Load* (lbs/wheel)
	Speed Codes L and S			Speed Code H			Speed Code D			
	Output (Hp)	Rated Current (amps ea.)		Output (Hp)	Rated Current (amps ea.)		Output (Hp)	Rated Current (amps ea.)		
		208-230V	380-460V		208-230V	380-460V		208-230V	380-460V	
MTML/S/H/D-3-0135	0.33	1.5	0.9	0.50	1.8	1.1	0.33/0.08	1.3/1.0	0.8/0.7	2,293
MTML/S/H/D-3-0160										4,550
MTML/S/H/D-3-0335										5,410
MTML/S/H/D-3-0360										6,998
MTML/S/H/D-3-0535										8,357
MTML/S/H/D-3-0560	0.50	1.8	1.1	1.0	3.1	1.8	0.50/0.13	1.7/1.2	1.0/0.7	11,913
MTML/S/H/D-3-1035	1.0	3.1	1.8	2.0	5.8	3.2	1.0/0.25	3.1/2.0	1.8/1.2	14,971
MTML/S/H/D-3-1060										15,810

*See explanation in Technical Information Section

Speed Code

- L - Designates 40 ft/min
- S - Designates 80 ft/min
- H - Designates 120 ft/min
- D - Designates dual speed 80/20 ft/min

End Truck Product Code	One Motor Per End Truck, 3 Phase 50 Hz						System Max. Wheel Load* (lbs/wheel)
	Speed Codes L and S		Speed Code H		Speed Code D		
	Output (Hp)	Rated Current (amps/ea.)	Output (Hp)	Rated Current (amps/ea.)	Output (Hp)	Rated Current (amps/ea.)	
		380V		380V		380V	
MTML/S/H/D-3-0135	0.28	0.9	0.46	1.1	0.28/0.071	0.80/0.60	2,293
MTML/S/H/D-3-0160							4,550
MTML/S/H/D-3-0335							5,410
MTML/S/H/D-3-0360							6,998
MTML/S/H/D-3-0535							8,357
MTML/S/H/D-3-0560	0.46	1.1	0.84	1.8	0.46/0.113	1.0/0.7	11,913
MTML/S/H/D-3-1035	0.84	1.8	1.68	3.2	0.84/0.21	1.8/1.2	14,971
MTML/S/H/D-3-1060							15,810

*See explanation in Technical Information Section

Speed Code

- L - Designates 34 ft/min
- S - Designates 67 ft/min
- H - Designates 101 ft/min
- D - Designates dual speed 67/17 ft/min

Series 3 Top Running Motorized Specifications (Metric)

End Truck Product Code	One Motor Per End Truck, 3 Phase 60 Hz									System Max. Wheel Load* (kg/wheel)
	Speed Codes L and S			Speed Code H			Speed Code D			
	Output (kW)	Rated Current (amps ea.)		Output (Hp)	Rated Current (amps ea.)		Output (Hp)	Rated Current (amps ea.)		
		208-230V	380-460V		208-230V	380-460V		208-230V	380-460V	
MTML/S/H/D-3-0135	0.25	1.5	0.9	0.40	1.8	1.1	0.25/0.063	1.3/1.0	0.8/0.7	1,040.1
MTML/S/H/D-3-0160										2,063.8
MTML/S/H/D-3-0335										2,453.9
MTML/S/H/D-3-0360										3,174.2
MTML/S/H/D-3-0535										3,790.7
MTML/S/H/D-3-0560	0.40	1.8	1.1	0.75	3.1	1.8	0.40/0.10	1.7/1.2	1.0/0.7	5,403.6
MTML/S/H/D-3-1035	0.75	3.1	1.8	1.5	5.8	3.2	0.75/0.19	3.1/2.0	1.8/1.2	6,790.7
MTML/S/H/D-3-1060										7,171.3

*See explanation in Technical Information Section

Speed Code

L - Designates 12 m/min

S - Designates 24 m/min

H - Designates 36 m/min

D - Designates dual speed 24/6 m/min

End Truck Product Code	One Motor Per End Truck, 3 Phase 50 Hz						System Max. Wheel Load* (kg/wheel)
	Speed Codes L and S		Speed Code H		Speed Code D		
	Output (kW)	Rated Current (amps/ea.)	Output (kW)	Rated Current (amps/ea.)	Output (kW)	Rated Current (amps/ea.)	
		380V		380V		380V	
MTML/S/H/D-3-0135	0.21	0.9	0.34	1.1	0.21/0.053	0.80/0.60	1,040.1
MTML/S/H/D-3-0160							2,063.8
MTML/S/H/D-3-0335							2,453.9
MTML/S/H/D-3-0360							3,174.2
MTML/S/H/D-3-0535							3,790.7
MTML/S/H/D-3-0560	0.34	1.1	0.63	1.8	0.34/0.084	1.0/0.7	5,403.6
MTML/S/H/D-3-1035	0.63	1.8	1.25	3.2	0.63/0.16	1.8/1.2	6,790.7
MTML/S/H/D-3-1060							7,171.3

*See explanation in Technical Information Section

Speed Code

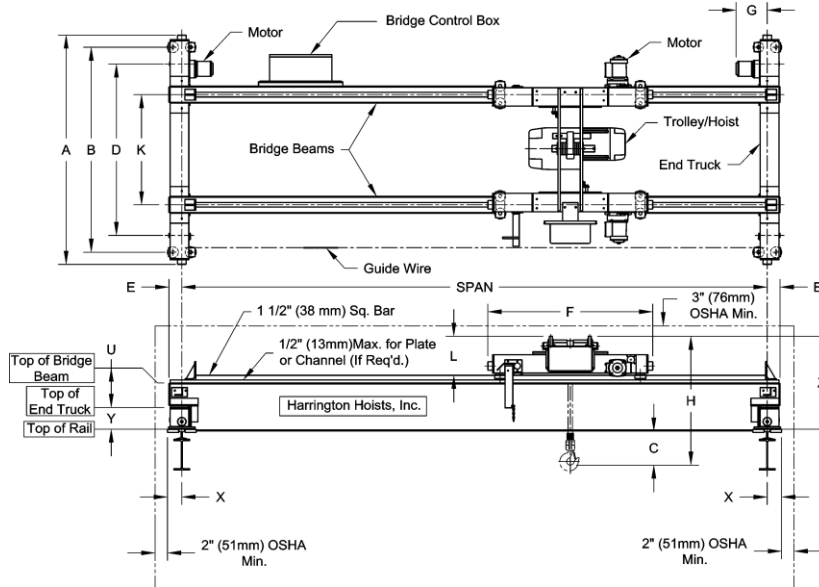
L - Designates 10 m/min

S - Designates 20 m/min

H - Designates 31 m/min

D - Designates dual speed 20/5 m/min

MOTORIZED TOP RUNNING DUAL DRIVE END TRUCKS



Imperial

MAX-E-LIFT TOP RUNNING MOTORIZED

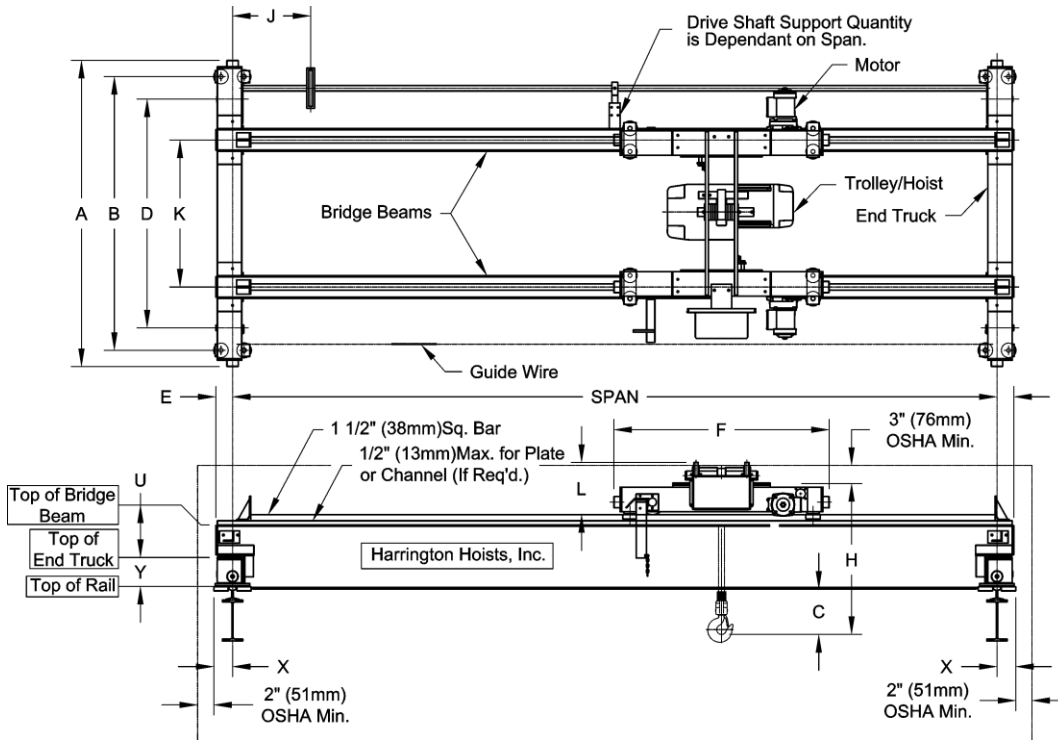
Max. Cap. (Tons)	Max. Span (ft)	End Truck Model #	Wheel Diameter (in)	Sug. Min. Runway Rail (ASCE#)	A Overall Length (in)	B Roller Base (in)	D Wheel Base (in)	E Beam Beyond Span (in)	K Beam Gauge (in)	U Beam Height Above End Truck (in)	X Width Beyond Span (in)	Y End Truck Overall Height (in)	G Span to Motor End (in)	Motor End Truck Weight (lbs./pr)	System Max. Wheel Load (lbs./wheel)	
1	35	MTML/S/H/D-3-0135	3.74	30	72	64	54	2.44	36	8.6	4.6	7.1	13.6	340	2293	
	60	MTML/S/H/D-3-0160			111	103	93							441	4550	
3	35	MTML/S/H/D-3-0335	6.10		75	67	56	4.13			4.7	9.2	13.7	13.9	526	5410
	60	MTML/S/H/D-3-0360			112	104	93								647	6998
5	35	MTML/S/H/D-3-0535	8.30	40	75	67	56	3.88	52	12.6	6.3	11.3	18.2	648	8357	
	60	MTML/S/H/D-3-0560			112	103	87							818	11,913	
10	35	MTML/S/H/D-3-1035	9.84	60	93	83	67	5.75	1321	320	160	287	462	1124	14,971	
	60	MTML/S/H/D-3-1060			113	103	87							1202	15,810	

Metric

MAX-E-LIFT TOP RUNNING MOTORIZED

Max. Cap. (Tons)	Max. Span (m)	End Truck Model #	Wheel Diameter (mm)	Sug. Min. Runway Rail (ASCE#)	A Overall Length (mm)	B Roller Base (mm)	D Wheel Base (mm)	E Beam Beyond Span (mm)	K Beam Gauge (mm)	U Beam Height Above End Truck (mm)	X Width Beyond Span (mm)	Y End Truck Overall Height (mm)	G Span to Motor End (mm)	Motor End Truck Weight (kg/pr)	System Max. Wheel Load (kg/wheel)	
1	10.7	MTML/S/H/D-3-0135	95	30	1829	1626	1372	62	914	218	117	180	345	154.2	1040.1	
	18.3	MTML/S/H/D-3-0160			2819	2616	2362							200.0	2063.8	
3	10.7	MTML/S/H/D-3-0335	155		1905	1702	1422	105			119	234	348	353	238.6	2453.9
	18.3	MTML/S/H/D-3-0360			2845	2642	2362								293.5	3174.2
5	10.7	MTML/S/H/D-3-0535	211	40	1905	1702	1422	99	1321	320	160	287	462	293.9	3790.7	
	18.3	MTML/S/H/D-3-0560			2845	2616	2210							371.0	5403.6	
10	10.7	MTML/S/H/D-3-1035	250	60	2362	2108	1701	146	1321	320	160	287	462	501.2	6790.7	
	18.3	MTML/S/H/D-3-1060			2870	2616	2210							545.2	7171.3	

MANUAL GEARED TOP RUNNING DUAL DRIVE END TRUCKS



Imperial

MAX-E-LIFT TOP RUNNING GEARED																
Max. Cap. (Tons)	Max. Span (ft)	End Truck Model #	Wheel Diameter (in)	Sug. Min. Runway Rail (ASCE#)	A Overall Length (in)	B Roller Base (in)	D Wheel Base (in)	E Beam Beyond Span (in)	J Hand Wheel Offset (in)	K Beam Gauge (in)	U Beam Height Above End Truck (in)	X Width Beyond Span (in)	Y Overall Height (in)	End Truck Weight (lbs./pr)	System Max. Wheel Load (lbs./ wheel)	
1	35	MTG-3-0135	3.74	30	72	64	54	2.44	9.6	36	8.6	4.6	7.1	310	2286	
	50	MTG-3-0150			111	103	93							411	3408	
3	35	MTG-3-0335	6.10		75	67	56	4.13	9.9					406	5380	
	50	MTG-3-0350			112	104	93							523	5928	
5	35	MTG-3-0535	8.30	40	75	67	56	3.88	9.8	119	234	9.2	539	8330		
	50	MTG-3-0550			112	103	87						3.88	9.8	789	8877

Metric

MAX-E-LIFT TOP RUNNING GEARED																
Max. Cap. (Tons)	Max. Span (m)	End Truck Model #	Wheel Diameter (mm)	Sug. Min. Runway Rail (ASCE#)	A Overall Length (mm)	B Roller Base (mm)	D Wheel Base (mm)	E Beam Beyond Span (mm)	J Hand Wheel Offset (mm)	K Beam Gauge (mm)	U Beam Height Above End Truck (mm)	X Width Beyond Span (mm)	Y Overall Height (mm)	End Truck Weight (kg/pr)	System Max. Wheel Load (kg/ wheel)	
1	10.7	MTG-3-0135	95	30	1829	1626	1372	62	244	914	218	117	180	140.6	1036.9	
	15.2	MTG-3-0150			2819	2616	2362							186.4	1545.8	
3	10.7	MTG-3-0335	155		1905	1702	1422	105	251					184.2	2440.3	
	15.2	MTG-3-0350			2845	2642	2362							237.2	2688.9	
5	10.7	MTG-3-0535	211	40	1905	1702	1422	99	249	119	236	234	244.5	3778.4		
	15.2	MTG-3-0550			2845	2616	2210						99	249	357.9	4026.5

END