Yale® SHAW-BOX®

CRANE KITS & COMPONENTS

SUGGESTED USER PRICES

New in this Version!

- July 2024 Price Adjustment

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Schedule #
YSCKCCPL-0724
Prices effective July 2024
Prices subject to change without notice.
All prices are F.O.B. origin.

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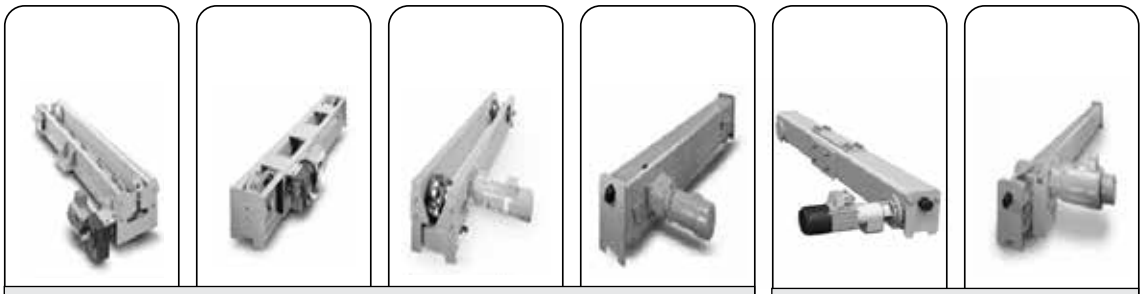
END TRUCK COMPARISON



FIXED AXLE TYPE | ROTATING AXLE TYPE

	BUDGIT UNDERHUNG ANGLE STYLE & FORMED CHANNEL	BUDGIT TOP-RUNNING FORMED CHANNEL	YALE UNDERHUNG ROLLED CHANNEL	YALE TOP-RUNNING FIXED-AXLE TUBE-FRAME	YALE TOP-RUNNING INTEGRAL AXLE METRIC WHEEL TUBE-FRAME	YALE TOP-RUNNING ROTATING AXLE TUBE-FRAME
Single or Double Girder	Single	Single	Single	Single & Double	Single & Double	Single & Double
Maximum Capacity	5 ton	5 ton	10 metric tons	15 metric tons on Single Girder 20 metric tons on Double Girder	Determined upon application	Determined upon application
Maximum Bridge Span	48 ft. at 3 ton maximum capacity 36 ft. at 5 ton maximum capacity	48 ft.	60 ft.	60 ft. on Single Girder Double Girder determined upon application	Determined upon application	Determined upon application
Type of Trucks Available	Push, Hand Geared, Motorized	Push, Hand Geared, Motorized	Hand Geared, Motorized	Hand Geared, Motorized	Hand Geared, Motorized	Motorized
Power Drive Type Application	Single & Dual Drive	Single & Dual Drive	Dual Drive	Dual Drive	Dual Drive	Dual Drive
Power Application	Electric Air drive package available on single drive only	Electric Air drive package available on single drive only	Electric	Electric	Electric	Electric
Electric Power Supplies	208V thru 575V (3 phase) 115/230-1-60/50 available on single drive, single speed only.	208V thru 575V (3 phase) 115/230-1-60/50 available on single drive, single speed only.	208V thru 575V (3 phase)	208V thru 575V (3 phase)	208V thru 575V (3 phase)	208V thru 575V (3 phase)
End Truck Bumpers	Motorized End Trucks - Standard Others - Optional	Motorized End Trucks - Standard Others - Optional	Standard Equipment	Standard Equipment	Standard Equipment	Standard Equipment
Service Class	CMAA Class C	CMAA Class C	CMAA Class C	CMAA Class C	CMAA Class C & D Rating determined upon application	CMAA Class D
Warranty	1 year	1 year	1 year	1 year	1 year	1 year

All prices are in US Funds.

BUDGIT CRANE KITS & COMPONENTS

SECTION CONTENTS:

BUDGIT ANGLE STYLE AND FORMED CHANNEL (FIXED AXLE) CRANE KITS & COMPONENTS

ANGLE STYLE

UNDERHUNG FORMED CHANNEL

TOP-RUNNING FORMED CHANNEL

COLUMBUS McKINNON CORPORATION

SPECIFICATIONS

UNDERHUNG ANGLE & FORMED CHANNEL CRANE KITS

CAPACITY:	¼-5 Ton Single Girder
SERVICE CLASS:	Meets the duty requirements of CMAA Class C Service
OPERATION:	Indoor
WHEELS:	Flat Tread wheels hardened to 220-250 BHN, Patented track is 393-460 BHN
BUMPERS:	Motorized - Standard, Plain & Geared - Optional, Rubber Cylindrical type
TRAVERSE GEARING:	Right Angle shaft mounted worm drive
TRAVERSE BRAKE:	Optional disc type
TRAVERSE MOTOR:	NEMA design 30 minute TENV with Class F insulation.
CONTROL:	1-Speed, 2-Speed, Variable Frequency
BEARINGS:	Lifetime Lubricated Ball Bearings

TOP-RUNNING FORMED CHANNEL CRANE KIT

CAPACITY:	¼-5 Ton Single Girder
SERVICE CLASS:	Meets the duty requirements of CMAA Class C Service
OPERATION:	Indoor
WHEELS:	Flat Tread wheels hardened to 187-255 BHN
BUMPERS:	Motorized - Standard, Plain & Geared - Optional, Rubber Cylindrical type
TRAVERSE GEARING:	Right Angle shaft mounted worm drive
TRAVERSE BRAKE:	Optional disc type
TRAVERSE MOTOR:	NEMA design 30 minute TENV with Class F insulation.
CONTROL:	1-Speed, 2-Speed, Variable Frequency
BEARINGS:	Lifetime Lubricated Ball Bearings

CRANE KITS

UNDERHUNG & TOP-RUNNING PUSH TYPE

PUSH TYPE UNDERHUNG

Catalog Number	Runway Beam Flange Adjustment Range (in.)	Capacity (tons)	Maximum Span (ft.)	Remarks	Weight (lbs.)	List Price
Angle Construction Trucks						
905360	3 to 8	1/2	30	4" TD Pressed Steel Wheels	300	**$3,507.00**
905360		1	24			**$3,507.00**
905360SR				4" TD Spark Resistant Wheels		**$4,811.00**
905361	3-3/8 to 8	2	30	5" TD Pressed Steel Wheels	310	**$3,909.00**
905362				4" TD Forged Steel Wheels	320	**$3,083.00**
905362PT	3-1/4			4" TD Patented Track Wheels		**$5,044.00**
905362SR	3-3/8 to 8			4" TD Spark Resistant Wheels		**$6,475.00**
Channel Construction Trucks						
905368	3-3/8 to 5-1/2	3	36	4" TD Forged Steel Wheels	380	**$5,230.00**
905368W1	5-1/2 to 8				390	**$4,897.00**
905368W2	8 to 10-1/2				400	**$6,266.00**
905368SR	3-3/8 to 5-1/2			4" TD Spark Resistant Wheels	380	**$7,173.00**
905368PT	3-1/4			4" TD Patented Track Wheels		**$6,695.00**
905368S	3-3/8 to 5-1/2		24	4" TD 3' - 0" Short Wheelbase	330	**$5,115.00**
905524	4 to 6-1/4	5	36	6.5" TD Forged Steel Wheels	550	**$7,813.00**
905524W1	6-3/8 to 9				560	**$9,354.00**
905524W2	9 to 11-1/2				570	**$10,252.00**
905524PT	3-1/4			6.5" TD Patented Track Wheels	550	**$13,008.00**
905524SR	4 to 6-1/4			6.5" TD Spark Resistant Wheels		**$12,581.00**
905524S			24	6.5" TD 3' - 0" Short Wheelbase	495	**$7,543.00**

NOTE: Push Type Kits Consist of: 2 End Trucks - (1 pair). Bumpers are optional - see Options section.

PUSH TYPE TOP-RUNNING*

Catalog Number	Capacity (tons)	Maximum Span (ft.)	Remarks	Weight (lbs.)	List Price
904535	5	36	8" TD Ductile Iron Wheels	450	**$4,899.00**
904535SR			8" TD Spark Resistant Wheels		**$15,438.00**
904535L			8" TD Ductile Iron Wheels 6'-0" Wheel Base	495	**$14,188.00**
904535S		24	8" TD Ductile Iron Wheels 3' - 0" Short Wheel Base	405	**$9,473.00**

End connection kit sold separately #51525050.....**$625** list

For complete specifications, see Bulletin # CS/L-1003-0206.

*Wheels are designed to be run on ASCE rail only, for square bar applications contact factory.

NOTE: Push Type Kits Consist of: 2 End Trucks - (1 pair). Bumpers are optional - see Options section.

All prices are in US Funds.

CRANE KITS

UNDERHUNG AND GEARED

HAND GEARED UNDERHUNG

For Runway Flange Widths of 3-3/8" to 5-1/2" for 3 Max Tons *

STANDARD

For Runway Flange Widths of 4" to 6-1/4" for 5 Max Tons **

Capacity (tons)	Max Span (ft.)	Kit Number	List Price	Weight (lbs.)	End Truck Catalog Number	Kit Consists of:			
						Cross Shaft Support		Cross Shaft Coupling	
						Quantity	Catalog Number	Quantity	Catalog Number
3	15	B03/15UHG	**$7,070.00**	440	4" TD 905369* 4' - 6" WB	1	905373	2	905374
	22	B03/22UHG	**$7,286.00**	442		2		2	
	29	B03/29UHG	**$7,625.00**	446		3		3	
	36	B03/36UHG	**$7,842.00**	448		4		3	
	48	B03/48UHG	**$13,267.00**	550	905380** 6' - 0" WB	6		4	
5	15	B05/15UHG	**$10,719.00**	520	905525** 4' - 6" WB	1		2	
	22	B05/22UHG	**$10,970.00**	522		2		2	
	29	B05/29UHG	**$11,360.00**	526		3		3	
	36	B05/36UHG	**$11,614.00**	528		4		3	

SPARK RESISTANT

Capacity (tons)	Max Span (ft.)	Kit Number	List Price	Weight (lbs.)	End Truck Catalog Number	Kit Consists of:			
						Cross Shaft Support		Cross Shaft Coupling	
						Quantity	Catalog Number	Quantity	Catalog Number
3	15	B03/15UHGSR	**$7,890.00**	480	4" TD 905369SR† 4' - 6" WB	1	905373	2	905374
	22	B03/22UHGSR	**$8,047.00**	482		2		2	
	29	B03/29UHGSR	**$8,300.00**	486		3		3	
	36	B03/36UHGSR	**$8,461.00**	488		4		3	
	48	B03/48UHGSR	**$19,245.00**	550	6.5" TD 905380SR†† 6' - 0" WB	6		4	
5	15	B05/15UHGSR	**$16,449.00**	570	6.5" TD 905525SR†† 4' - 6" WB	1		2	
	22	B05/22UHGSR	**$16,700.00**	572		2		2	
	29	B05/29UHGSR	**$17,091.00**	576		3		3	
	36	B05/36UHGSR	**$17,343.00**	578		4		3	

Kit Consists of:
- 904550 Hand Chain Wheel
- 8282 Hand Chain 36 Lineal Feet
- 8282SR Hand Chain 36 Lineal Feet Spark Resistant
- 2 End Trucks - (1 pair); Bumpers are optional - see Options section.
- Cross Shaft Support as noted above
- Cross Shaft Coupling as noted above

Components Detailed in Application Guide
- * For flange widths of 5-1/2" to 8" ..... add **$442**
- * For flange widths of 8" to 10-1/2" ..... add **$567**
- * For patent track ..... add **$679**
- **For flange widths of 6-3/8" to 9" ..... add **$456**
- **For flange widths of 9" to 11-1/2" ..... add **$854**
- **For patent track ..... add **$1,171**

Note: 1" diameter cross shaft - by others.
Standard kit hand chain is zinc plated, 36' long. Additional hand chain per lineal ft. add **$7.85**
Spark resistant kit hand chain aluminum, 36' ft. long. Additional spark resistant hand chain per lineal ft. add **$17.95**

NOTE: Bridge Beam not Included in Kit

- † For flange widths of 5-1/2" to 8" ..... add **$442**
- †For flange widths of 8" to 10-1/2" ..... add **$567**
- † For patent track ..... POA
- ††For flange widths of 6-3/8" to 9" ..... add **$456**
- ††For flange widths of 9" to 11-1/2" ..... add **$854**
- ††For patent track ..... POA

All prices are in US Funds.

CRANE KITS

TOP-RUNNING HAND GEARED

HAND GEARED TOP-RUNNING

STANDARD

Capacity (tons)	Max Span (ft.)	Kit Number	List Price	Weight (lbs.)	End Truck Catalog Number	Kit Consists of:			
						Cross Shaft Support		Cross Shaft Coupling	
						Quantity	Catalog Number	Quantity	Catalog Number
5	15	B05/15TH	**$6,553.00**	500	8" TD 904536 4' - 6" WB	1	904540	2	905374
	22	B05/22TH	**$6,710.00**	515		2		2	
	29	B05/29TH	**$6,966.00**	532		3		3	
	36	B05/36TH	**$7,125.00**	549		4		3	
	48	B05/48TH	**$20,172.00**	690	8" TD 904549 6' - 0" WB	6	904540L	4	

SPARK RESISTANT

Capacity (tons)	Max Span (ft.)	Kit Number	List Price	Weight (lbs.)	End Truck Catalog Number	Kit Consists of:			
						Cross Shaft Support		Cross Shaft Coupling	
						Quantity	Catalog Number	Quantity	Catalog Number
5	15	B05/15THSR	**$16,173.00**	550	8" TD 904536SR 4' - 6" WB	1	904540	2	905374
	22	B05/22THSR	**$16,380.00**	565		2		2	
	29	B05/29THSR	**$16,586.00**	582		3		3	
	36	B05/36THSR	**$16,746.00**	599		4		3	
	48	B05/48THSR	**$26,259.00**	740	8" TD 904549SR 6' - 0" WB	6	904540L	4	

Kit Consists of: 904550 Hand Chain Wheel
2 End Trucks - (1 pair); Bumpers are optional - see Options section.
36' Hand Chain
Cross Shaft Support as noted above
1 Hand Chain Link
Cross Shaft Coupling as noted above

Note: 1" diameter cross shaft - by others.
End connection kit sold separately 51525050 **$625** list

Standard kit hand chain is zinc plated, 36' long. Additional hand chain per lineal ft. add **$7.85**
Spark resistant kit hand chain aluminum, 36' ft. long. Additional spark resistant hand chain per lineal ft. add **$17.35**

Wheels are designed to be run on ASCE rail only, for square bar applications contact factory.

All prices are in US Funds.

CRANE KITS

SINGLE DRIVE UNDERHUNG MOTORIZED

FOR RUNWAY FLANGE WIDTH OF 3-3/8" TO 5-1/2" **

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Kit Consists Of:		
				1 Speed	2 Speed	1 Speed	2 Speed		Cross Shaft Support	Cross Shaft Coupling	Drive (hp)
1/4 through 3	8	55	B03/08UC*55	$10,303.00	$10,943.00	524	544	4" TD 905369 4' - 6" WB	0	2	1/2
		70	B03/08UC*70	$10,303.00	$10,943.00						
		110	B03/08UC*110	$10,303.00	$10,943.00						
	15	55	B03/15UC*55	$10,517.00	$11,150.00	544	564		1		
		70	B03/15UC*70	$10,517.00	$11,150.00						
		110	B03/15UC*110	$10,517.00	$11,150.00						
	22	55	B03/22UC*55	$10,730.00	$11,355.00	564	584		2		
		70	B03/22UC*70	$10,730.00	$11,355.00						
		110	B03/22UC*110	$10,730.00	$11,355.00						
	29	55	B03/29UC*55	$11,075.00	$11,686.00	586	606		3	3	
		70	B03/29UC*70	$11,075.00	$11,686.00						
		110	B03/29UC*110	$11,075.00	$11,686.00						
	36	55	B03/36UC*55	$11,291.00	$11,889.00	606	626		4		
		70	B03/36UC*70	$11,291.00	$11,889.00						
		110	B03/36UC*110	$11,291.00	$11,889.00						

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
1 Reducer
1 Motor
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)
Cross Shaft Support as noted above
Cross Shaft Coupling as noted above

Note: 1" diameter cross shaft - by others.

Specify Voltage when ordering - Add **$528** to kit price for single phase only

Components Detailed in Application Guide

For flange widths of 5-1/2" - 8" add **$442
For flange widths of 8" - 10-1/2" add **$567
For Patented Track add **$679

FOR RUNWAY FLANGE WIDTH OF 4" TO 6-1/4" **

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Kit Consists Of:		
				1 Speed	2 Speed	1 Speed	2 Speed		Cross Shaft Support	Cross Shaft Coupling	Drive (hp)
5	8	50	B05/08UC*50	$14,448.00	$15,089.00	524	544	6.5" TD 905525 4' - 6" WB	0	2	1/2
		65	B05/08UC*65	$14,448.00	$15,089.00						
		100	B05/08UC*100	$14,448.00	$15,089.00						
	15	50	B05/15UC*50	$14,697.00	$15,322.00	544	564		1		
		65	B05/15UC*65	$14,697.00	$15,322.00						
		100	B05/15UC*100	$14,697.00	$15,322.00						
	22	50	B05/22UC*50	$14,943.00	$15,561.00	564	584		2		
		65	B05/22UC*65	$14,943.00	$15,561.00						
		100	B05/22UC*100	$14,943.00	$15,561.00						
	29	50	B05/29UC*50	$15,338.00	$15,942.00	586	606		3	3	
		65	B05/29UC*65	$15,338.00	$15,942.00						
		100	B05/29UC*100	$15,338.00	$15,942.00						
	36	50	B05/36UC*50	$15,588.00	$16,179.00	606	626		4		
		65	B05/36UC*65	$15,588.00	$16,179.00						
		100	B05/36UC*100	$15,588.00	$16,179.00						

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
1 Reducer
2=Two Speed
1 Motor
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)
Cross Shaft Support as noted above
Cross Shaft Coupling as noted above

Note: 1" diameter cross shaft - by others.

Specify Voltage when ordering - Add **$528** to kit price for single phase only

Components Detailed in Application Guide

For flange widths of 6-3/8" to 9" add **$456
For flange widths of 9" to 11-1/2" add **$894
For Patented Track add **$1,171

All prices are in US Funds.

CRANE KITS

DUAL DRIVE UNDERHUNG MOTORIZED

36' Span Kit - For Runway Flange Width of 3-3/8" to 5-1/2" ** 48' Span Kit for Runway Flange Width 4" to 6¼" †

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Drive (hp)
				1 Speed	2 Speed	1 Speed	2 Speed		
1/4 through 3	36	55	B03/36UD*55	**$12,340.00**	**$13,964.00**	545	565	4" TD 905369 4'-6" WB	(2) 1/2
		70	B03/36UD*70	**$12,340.00**	**$13,964.00**				
		110	B03/36UD*110	**$12,340.00**	**$13,964.00**				
	48	50	NOT AVAILABLE						
		65	B03/48UD*65	**$17,601.00**	**$19,425.00**	645	665	6.5" TD 905380 6'-0" WB	(2) 1/2
		100	B03/48UD*100	**$17,601.00**	**$19,425.00**				

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
2 Reducers
2 Motors
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)

Specify Voltage when ordering

Components Detailed in Application Guide

** For flange widths of 5-1/2" to 8" add **$442**
** For flange widths of 8" to 10-1/2" add **$567**
** For Patented Track add **$679**
† For Flange Widths of 6-3/8" to 9" add **$456**
† For Flange Widths of 9" to 11-1/2" add **$854**
† For Patented Track add **$1,171**

For Runway Flange Width of 4" to 6-1/4" ** (4'-6" Wheelbase)

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Drive (hp)
				1 Speed	2 Speed	1 Speed	2 Speed		
5	36	50	B05/36UD*50	**$16,792.00**	**$18,668.00**	665	685	6.5" TD 905525	(2) 1/2
		65	B05/36UD*65	**$16,792.00**	**$18,668.00**				
		100	B05/36UD*100	**$16,792.00**	**$18,668.00**				

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
2 Reducers
2 Motors
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)

Specify Voltage when ordering

Components Detailed in Application Guide

For flange widths of 6-3/8" to 9" add **$456
For flange widths of 9" to 11-1/2" add **$854
For Patented Track add **$1,171

CONTROL PANEL OPTIONS

To Eliminate Panel and Disconnect Deduct	1 Speed	2 Speed
	-$1,602.00	**-$1,980.00**

To Upgrade to NEMA 4 - Add:	$1,381.00

CRANE KITS

TOP-RUNNING MOTORIZED

SINGLE DRIVE - TOP-RUNNING

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Kit Consists Of:		
				1 Speed	2 Speed	1 Speed	2 Speed		Cross Shaft Support	Cross Shaft Coupling	Drive (hp)
1/4 through 5	8	50	B05/08TC*50	**$8,633.00**	**$9,441.00**	529	554	8" TD 904536 4' - 6" WB	0	2	1/2
		70	B05/08TC*70	**$8,633.00**	**$9,441.00**						
		100	B05/08TC*100	**$8,633.00**	**$9,441.00**						
	15	50	B05/15TC*50	**$8,794.00**	**$9,600.00**	544	569		1		
		70	B05/15TC*70	**$8,794.00**	**$9,600.00**						
		100	B05/15TC*100	**$8,794.00**	**$9,600.00**						
	22	50	B05/22TC*50	**$8,951.00**	**$9,762.00**	559	584		2		
		70	B05/22TC*70	**$8,951.00**	**$9,762.00**						
		100	B05/22TC*100	**$8,951.00**	**$9,762.00**						
	29	50	B05/29TC*50	**$9,207.00**	**$10,012.00**	576	601		3	3	
		70	B05/29TC*70	**$9,207.00**	**$10,012.00**						
		100	B05/29TC*100	**$9,207.00**	**$10,012.00**						
	36	50	B05/36TC*50	**$9,366.00**	**$10,171.00**	591	616		4		
		70	B05/36TC*70	**$9,366.00**	**$10,171.00**						
		100	B05/36TC*100	**$9,366.00**	**$10,171.00**						

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
1 Reducer
1 Motor
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)
Cross Shaft Support as noted above
Cross Shaft Coupling as noted above

Note: 1" diameter cross shaft - by others.

End connection kit sold separately 51525050 **$625** List

Specify Voltage when ordering - Add **$528** to kit price for single phase only (Not available in dual drive)

Components Detailed in Application Guide

Wheels are designed to be run on ASCE rail only, square bar applications are available upon request.

Square bar requirements; width 40 mm maximum (1-1/2" maximum), height 40 mm minimum (1-1/2" minimum).

DUAL DRIVE - TOP-RUNNING

Capacity (tons)	Max Span (ft.)	Speed (fpm)	Kit Number	List Price		Weight (lbs.)		End Truck Catalog Number	Drive (hp)
				1 Speed	2 Speed	1 Speed	2 Speed		
1/4 through 5	36	50	B05/36TD*50	**$10,142.00**	**$11,363.00**	575	615	8" TD 904536 4'-6" WB	(2) 1/2
		70	B05/36TD*70	**$10,142.00**	**$11,363.00**				
		100	B05/36TD*100	**$10,142.00**	**$11,363.00**				
	48		Not Available						
		70	B05/48TD*70	**$27,861.00**	**$31,115.00**	675	715	8" TD 904549 6'-0" WB	(2) 3/4
		100	B05/48TD*100	**$27,861.00**	**$31,115.00**				

*Specify: 1=Single Speed
2=Two Speed

Kit Consists of: 2 End Trucks - (1 pair), including drop stops and bumpers
2 Reducers
2 Motors
1 Control Panel (NEMA 1)
1 Disconnect (NEMA 1)

End connection kit sold separately 51525050 **$625** list

Specify Voltage when ordering

Components Detailed in Application Guide

Wheelbase exceeding 54" - line shaft drive applicable on 36' span and below only

CONTROL PANEL OPTIONS

To Eliminate Panel and Disconnect Deduct	1 Speed	2 Speed
-$1,406.00	-$1,602.00	-$1,980.00

To Upgrade to NEMA 4 - Add:	$1,381.00

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

UNDERHUNG

Tread Dia. / Wheelbase	Catalog Number	Runway Beam Flange	Remarks	Wt. (lbs.)	List Price
Underhung End Trucks (1 pair) - 3 Ton Capacity					
4" TD 4'-6" WB	905369	3-3/8" to 5-1/2"	Standard - 3 ton	440	**$5,708.00**
	905369W1	5-1/2" to 8"	Wider Flange	450	**$6,150.00**
	905369W2	8" to 10-1/2"	Wider Flange	460	**$6,274.00**
	905369PT	3-1/4"	Patented Track	440	**$6,387.00**
	905369SR	3-3/8" to 5-1/2"	Spark Resistant	440	**$6,887.00**
	905369SRW1	5-1/2" to 8"	Spark Resistant	450	**$7,329.00**
	905369SRW2	8" to 10-1/2"	Spark Resistant	460	**$7,453.00**
4" TD 3'-0" WB	905369S	3-3/8" to 5-1/2"	3'-0" Short Wheelbase	390	**$5,492.00**
	905369SW1	5-1/2" to 8"	3'-0" Short Wheelbase	400	**$5,932.00**
	905369SPT	3-1/4"	3'-0" Short Wheelbase, Patented Track	390	**$6,214.00**
	905369SSR	3-3/8" to 5-1/2"	3'-0" Short Wheelbase, Spark Resistant	390	**$8,144.00**
6.5" TD 6'-0" WB	905380	4" to 6-1/4"	6'-0" Wheelbase	540	**$10,344.00**
	905380W1	6-3/8" to 9"	Wider Flange	550	**$10,799.00**
	905380W2	9" to 11-1/2"	Wider Flange	560	**$11,198.00**
	905380PT	3-1/4"	Patented Track	540	**$15,325.00**
	905380SR	4" to 6-1/4"	Spark Resistant	540	**$16,068.00**
	905380W1SR	6-3/8" to 9"	Spark Resistant	550	**$16,523.00**
	905380W2SR	9" to 11-1/2"	Spark Resistant	560	**$16,922.00**
Underhung End Trucks (1 pair) - 5 Ton Capacity					
6.5" TD 4'-6" WB	905525	4" to 6-1/4"	Standard- 5 ton	560	**$8,976.00**
	905525W1	6-3/8" to 9"	Wider Flange	570	**$9,431.00**
	905525W2	9" to 11-1/2"	Wider Flange	580	**$9,831.00**
	905525PT	3-1/4"	Patented Track	560	**$10,148.00**
	905525SR	4" to 6-1/4"	Spark Resistant	560	**$14,286.00**
	905525SRW1	6-3/8" to 9"	Spark Resistant	570	**$14,741.00**
	905525SRW2	9" to 11-1/2"	Spark Resistant	580	**$15,139.00**
6.5" TD 3'-0" WB	905525S	4" to 6-1/4"	3'-0" Short Wheelbase	505	**$6,567.00**
	905525SW1	6-3/8" to 9"	3'-0" Short Wheelbase	515	**$7,022.00**
	905525SW2	9" to 11-1/2"	3'-0" Short Wheelbase	525	**$7,420.00**

Tread Dia. / Wheelbase	Catalog Number	Description	Weight (lbs.)	List Price
Patented Track, Spark Resistant Underhung End Trucks - (1 pair)				
4" TD 4'-6" WB	905369SRPT	3 Ton Geared	440	**$17,332.00**

Catalog Number	Description	Weight (lbs.)	List Price
Drive Components			
905374	Cross Shaft Coupling	2	**$101.00**
905373	Cross Shaft Support	20	**$171.00**
904550	Hand Chain Wheel for Budgit Trucks	10	**$640.00**
8282	Hand Chain 36 lineal feet	18	**$288.00**
8282SR	Hand Chain 36 lineal ft. Spark Resistant	16	**$620.00**

Catalog Number	Traverse Speed		Weight (lbs.)	List Price
	3 ton	5 ton		
Gear Reducers				
C33375110	110 fpm GR - 10:1	100 fpm GR - 10:1	20	**$1,313.00 (each)**
C33375115	70 fpm GR - 15:1	65 fpm GR - 15:1		
C33375120	55 fpm GR - 20:1	50 fpm GR - 20:1		

Electrical and Control Options	List Price
Warning Horn	**$1,191.00**
NEMA 4 Travel Limit Switch (Trip Dogs by Others)	**$1,859.00**

Electronic Acceleration Control (EAC) — 115 volt control			
904596	Single Speed .75 HP Max 208-230 - 3 - 60 2 HP Max 460 - 3 - 60	10	**$623.00**
904598	Two Speed .75 HP Max 208-230 - 3 - 60 2 HP Max 460 - 3 - 60		**$796.00**
913186	Single Speed or Two Speed 2 HP Max 208-230-3-60		**$1,189.00**

Bridge Brakes				
904554	3 ft. lb. Adjustable Brake	120/240 - 1 - 60	15	**$796.00 (each)**
904555		230/460 - 3-60		
904556		575 - 3 - 60		

Motor Protection			
TAS	Temperature Actuated Switch in Motor Winding	—	**Std.**
TOL	Thermal overload relays (3 phase) in enclosure	25	**$360.00**

Catalog Number	Horse Power	Power Supply	Weight (lbs.)	List Price
Motor - Single Speed				
32879532	.5 HP-1800 RPM	208-230/460-3-60	25	**$479.00**
32879533		575 - 3 - 60	25	
Motor - Half-Speed Single Speed (provides traverse speed 50% of that listed)				
32879526	.25 HP 900 RPM	230/460-3-60	30	**$636.00**
328795-27		575 - 3 - 60		
Motor - Two Speed - slow speed is one third of listed speed				
32879624	.5/.17 HP 1800/600 RPM	200-208-3-60	45	**$913.00**
32879625		230 - 3 - 60		
32879626		460 - 3 - 60		
32879627		575 - 3 - 60		
Motors - Single Phase - single motor - single speed only				
32879722	.5 HP 1800 RPM	115/230 - 1 - 60	30	**$967.00**

Catalog Number	Description	Weight (lbs.)	List Price
Control Panels - Single Speed - (3 ph Underhung)			
44600313	460v - 3 ph - 60 Hz - 905386	20	**$1,172.00**
44600314	575v - 3 ph - 60 Hz - 905387	20	
44600311	208-230v - 3 ph - 60 Hz (1 hp) - I.D.	50	
Control Panels - Single Phase - (1 ph Underhung)			
44600305	115v - 1 ph - 60 Hz - 905364	20	**$1,260.00**
44600315	230v - 1 ph - 60 Hz - 905365		
Control Panels - Two Speed - (3 ph Underhung)			
44600343	460v - 3 ph - 60 Hz - 905398	25	**$1,572.00**
44600344	575v - 3 ph - 60 Hz - 905399	25	
44600351	208-230v - 3 ph - 60 Hz (1 hp) - I.D.	50	

Fused Disconnect Switch - Standard			
905388	208-230v - 3 ph - 60 Hz	10	**$360.00**
905389	460-575v - 3 ph - 60 Hz		**$516.00**
Fused Disconnect Switch - Single Phase			
905366	115v - 1 ph - 60 Hz	10	**$421.00**
905367	230v - 1 ph - 60 Hz		

Weatherproofing (add for each enclosure)		Weight (lbs.)	List Price
NEMA 4/12	Watertight and dust-tight for indoor and outdoor service	20	**$1,381.00**
NEMA 7 or 9	Apply to factory	—	**—**

Bridge Bumpers		Weight (lbs.)	List Price
932000	Rubber Bumpers, Underhung (Bumpers are optional for Push and Hand Geared End Trucks)	20	**$139.00**

Air Motor Drive Package		Weight (lbs.)	List Price
51526501	Includes air motor, gear reducer, control head with pendant throttle and hose assembly with 8 ft. hose drop. Traverse speed approx. 70 fpm. Requires catalog 902967 filter- regulator-lubricator mounted near air motor. See note below.	115	**$6,335.00**
	For additional pendant hose over 8''- 0" Add per foot		**$17.20**

Note: 902967 Filter/regulator/lubricator - Add **$679** list each, 15 lbs.

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

TOP-RUNNING

Tread Dia. / Wheelbase	Catalog Number	Description	Weight (lbs.)	List Price
Top-Running End Trucks - (1 pair)				
8" TD 4'-6" WB	904536	Standard	450	**$5,280.00**
	904536SR	Spark Resistant Wheels	450	**$15,408.00**
8" TD 3'-0" WB	904536S	3' - 0" Short Wheelbase	395	**$9,698.00**
8" TD 6'-0" WB	904549	6' - 0" Wheelbase	550	**$14,703.00**
	904549SR	Spark Resistant Wheels	550	**$23,604.00**

Catalog Number	Description	Weight (lbs.)	List Price
Drive Components			
904540	Cross Shaft Support	20	**$171.00**
904540L	Cross Shaft Support - 6' - 0" Wheelbase Only	23	**$225.00**
905374	Cross Shaft Coupling	2	**$101.00**
904550	Hand Chain Wheel	10	**$640.00**
8282	Hand Chain	18	**$288.00**
8282SR	Spark Resistant Hand Chain	16	**$620.00**
Gear Reducers			
905376	Traverse Speed 100 fpm GR - 10:1	20	**$1,313.00 (each)**
905377	Traverse Speed 70 fpm GR - 15:1		
905378	Traverse Speed 50 fpm GR - 20:1		

Electrical and Control Options	List Price
Warning Horn	**$1,191.00**
NEMA 4 Travel Limit Switch (Trip Dogs by Others)	**$1,859.00**

Electronic Acceleration Control (EAC) — 115 volt control			
904596	Single Speed .75 HP Max 208-230 - 3 - 60 2 HP Max 460 - 3 - 60	10	**$623.00**
904598	Two Speed .75 HP Max 208-230 - 3 - 60 2 HP Max 460 - 3 - 60		**$796.00**
913186	Single Speed or Two Speed 2 HP Max 208-230-3-60		**$1,189.00**

Ballast Resistors (single drive only)			
905391	SS and 2S 208-230 - 3 - 60	10	**$522.00**
905392	SS and 2S 460 - 3 - 60		
905393	SS and 2S 575 - 3 - 60		

Bridge Brakes				
904554	3 ft. lb. Adjustable Brake	120/240 - 1 - 60	15	**$796.00 (each)**
904555		230/460 - 3-60		
904556		575 - 3 - 60		

Motor Protection			
TAS	Temperature Actuated Switch in Motor Winding	—	**Std.**
TOL	Thermal overload relays (3 phase) in enclosure	25	**$360.00**

Air Motor Drive Package		Wt. (lbs)	List Price
51526501	Includes air motor, gear reducer, control head with pendant throttle and hose assembly with 8 ft. hose drop. Traverse speed approx. 70 fpm. Requires catalog 902967 filter- regulator-lubricator mounted near air motor. See note below.	115	**$6,335.00**
	For additional pendant hose over 8'- 0" Add per foot		**$17.20**

Note: 902967 Filter/regulator/lubricator - Add **$679** list each, 15 lbs.

Catalog Number	Horse Power	Power Supply	Weight (lbs.)	List Price
Motor - Single Speed				
32879532	.5 HP-1800 RPM	208-230/460-3-60	25	**$479.00**
32879533		575 - 3 - 60		
32879542	.75 HP-1800 RPM	208/230/460-3-60	25	**$566.00**
32879543		575-3-60		
Motors - Half-Speed Single Speed (provides traverse speed 50% of that listed)				
32879526	.25 HP 900 RPM	208-230/460-3-60	30	**$636.00**
32879527		575 - 3 - 60		
Motor - Two Speed - slow speed is one third of listed speed				
32879624	.5/.17 HP 1800/600 RPM	200-208-3-60	45	**$913.00**
32879625		230 - 3 - 60		
32879626		460 - 3 - 60		
32879627		575 - 3 - 60		
Motors - Single Phase - single motor - single speed only				
32879722	.5 HP 1800 RPM	115/230 - 1 - 60	30	**$967.00**

Catalog Number	Description	Weight (lbs.)	List Price
Control Panel -Single Speed (3 ph Top-Run)			
44600326	208-230v - 3 ph - 60 Hz - 904541	20	**$1,172.00**
44600383	460v - 3 ph - 60 Hz - 904542		
44600384	575v - 3 ph - 60 Hz - 904543		
44600329	208-230v - 3 ph - 60 Hz - 3/4 hp motor		**$1,276.00**
44600327	460v - 3 ph - 60 Hz - 3/4 hp motor		
44600328	575v - 3 ph - 60 Hz - 3/4 hp motor		
Control Panel - Two Speed (3 ph Top-Run)			
44600336	208-230v - 3 ph - 60 Hz - 904546	25	**$1,590.00**
44600393	460v - 3 ph - 60 Hz - 904547		
44600394	575v - 3 ph - 60 Hz - 904548		
44600339	208-230v - 3 ph - 60 Hz - 3/4 hp motor		**$1,689.00**
44600337	460v - 3 ph - 60 Hz - 3/4 hp motor		
44600338	575v - 3 ph - 60 Hz - 3/4 hp motor		
Control Panel - Single Phase Single Speed (1 ph Top-Run)			
44600305	115v - 1 ph - 60 Hz - 904544	20	**$1,260.00**
44600315	230v - 1 ph - 60 Hz - 904545		

Fused Disconnect Switch - Standard			
905388	208-230v - 3 ph - 60 Hz	10	**$360.00**
905389	460-575v - 3 ph - 60 Hz		**$516.00**
Fused Disconnect Switch - Single Phase			
905366	115v - 1 ph - 60 Hz	10	**$421.00**
905367	230v - 1 ph - 60 Hz		

Weatherproofing (add for each enclosure)		Wt. (lbs)	List Price
NEMA 4/12	Watertight and dust-tight for indoor and outdoor service	20	**$1,381.00**
NEMA 7 or 9	Apply to factory	—	**—**

Bridge Bumpers		Wt. (lbs)	List Price
932000	Rubber Bumpers, Top-Running (Bumpers are optional for Push and Hand Geared End Trucks	20	**$139.00**

INDIVIDUAL CRANE COMPONENTS & OPTIONS

NEMA 4/12 CONTROL PANELS

ONE & TWO SPEED NEMA 4/12 PANELS WITH BUILT-IN DISCONNECT

For Bridge Traverse Motions

Price Includes:

Feature:	1 h.p.
NEMA 4/12 Panel	20 x 16 x 8.8"
Mainline Contactor	30 Amp**
Control Transformer	115V/75VA
Disconnect with Panel Mounted Handle	30 Amp**
Fuses	Yes
Hinge Point	Horizontal at bottom of panel

Maximum Total H.P.	List Prices For: 1-Speed Panels						
	230 volts	Catalog Number	460 volts	Catalog Number	575 volts	Catalog Number	Weight (lbs.)
1	**$2,554.00**	44423121	**$2,554.00**	44423141	**$2,554.00**	44423151	75
Maximum Total H.P.	**2-Speed Panels**						
	230 volts	**Catalog No.**	**460 volts**	**Catalog No.**	**575 volts**	**Catalog No.**	**Weight (lbs.)**
1	**$2,647.00**	44423221	**$2,647.00**	44423241	**$2,647.00**	44423251	85

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

VARIABLE FREQUENCY NEMA 4/12 PANEL WITH BUILT-IN DISCONNECT

For Bridge Traverse Motions
Speed range up to 20:1 (in F.P.M.)

Price Includes:

Feature:	1 h.p.
Magnetek	IMPULSE·G+ Mini
CMAA Service Class	C
NEMA 4/12 Panel	20 x 16 x 8.5
Control Steps	2-step or 3-step infinitely variable
Mainline Contactor	30 Amp
Control Transformer	75VA
Disconnect with Panel Mounted Handle	30 Amp
External Dynamic Braking Resistor	Yes
Fuses	Yes
Hinge Point	Horizontal at bottom of panel

Power Supply	Maximum Total H.P.	Maximum Full Load Amps	Weight (lbs.)	Catalog Number	List Price
230 Volts	1	5.0	50	45231121	**$4,090.00**
460 Volts	1	3.4		45231142	**$4,258.00**
230 Volts	2	8.0		45231122	**$4,422.00**
460 Volts	2	3.4		45231142	**$4,258.00**

Not available in 575 volt

Consult factory for ¾ hp dual drive end trucks

All prices are in US Funds.

FIXED AXLE CRANE KITS & COMPONENTS

SECTION CONTENTS:

COLUMBUS McKINNON CORPORATION

SPECIFICATIONS

FIXED AXLE ROLLED CHANNEL UNDERHUNG CRANE KITS

CAPACITY:	½-10 Ton Single Girder
SERVICE CLASS:	Meets the duty requirements of CMAA Class C Service
OPERATION:	Indoor
WHEELS:	Flat Tread Wheels. 6" dia. hardness: 425-475 Bhn for ASI/WF/Pat. Track. 8" dia. hardness: 225-265 Bhn for ASI/WF, 425/475 Bhn for Pat. Track. Bronze is 225 Bhn for both sizes.
BUMPERS:	Rubber Conical type
TRAVERSE GEARING:	Spur, heat-treated alloy steel
TRAVERSE BRAKE:	50% torque, AC disc type
TRAVERSE MOTOR:	NEMA design 30 minute TENV with Class F insulation.
CONTROL:	1-Speed, 2-Speed, Variable Frequency
BEARINGS:	Antifriction type throughout

FIXED AXLE TOP-RUNNING CRANE KITS

CAPACITY:	½-15 Ton Single Girder
SERVICE CLASS:	Meets the duty requirements of CMAA Class C Service
OPERATION:	Indoor
WHEELS:	Flat Tread wheels hardened to 400 – 450 BHN
BUMPERS:	Rubber Conical type
TRAVERSE GEARING:	Spur, heat-treated alloy steel
TRAVERSE BRAKE:	50% torque, AC disc type
TRAVERSE MOTOR:	NEMA design 30 minute TENV with Class F insulation.
CONTROL:	1-Speed, 2-Speed, Variable Frequency
BEARINGS:	Antifriction type throughout

All prices are in US Funds.

SPECIAL INFORMATION

SINGLE GIRDER FIXED AXLE KIT NUMBERING SYSTEM

Pricing and ordering quality Yale® Shaw-Box® Components to build a Single Girder Crane has just been made easier. The kit numbering system is designed to ensure that you get the correct combinations of features and components required to build your crane. You also have the ability to add options to the kits or purchase specific individual components.

EXAMPLE:
05 /48TD*100N

05	/48	T	D	*	100	N
A	B	C	D	E	F	G

A = Maximum Capacity in U.S. tons

B = Maximum Span in feet

C = Type of Crane

- T = Top-Running
- U = Underhung

D = Type of Drive

- D = Dual, A-4
- H = Hand-Geared

E = Speed Points of Control. You fill in.
1 or 2 speed, or V for Variable Frequency,
not required for Hand-Geared.

F = Maximum Bridge Speed in F.P.M.

G = Panel enclosure

- N = NEMA 4/12

Specify Power Supply with order.

CRANE KITS

SINGLE GIRDER TOP-RUNNING FOR CMAA CLASS "C"

DUAL (A-4) DRIVE - NEW STYLE TRUCKS FOR U.S. (SHORT) TONS

KIT PRICING WITH NEMA 4/12 PANEL WITH DISCONNECT

Max. Capacity (tons)	Max. Span (ft.)	Max. Travel Speed (fpm)	Kit Number	LIST PRICE WITH CONTROL			KIT CONSISTS OF:			
				1-Speed	2-Speed	†Variable Frequency	Shipping Weight	Wheel Diameter	Wheel Base	Drive H.P.
5	36	50	05/36TD*50N	**$14,543.00**	**$15,285.00**	**$16,647.00**	1103	6" for use with 25-40# Rail	4' - 6"	1/2
		75	05/36TD*75N	**$14,543.00**	**$15,285.00**	**$16,084.00**				
		100	05/36TD*100N	**$14,543.00**	**$15,285.00**	**$16,084.00**				
		125	05/36TD*125N	N/A	**$15,472.00**	**$16,730.00**				3/4
		150	05/36TD*150N	N/A	**$15,472.00**	**$16,730.00**				
	48	50	05/48TD*50N	**$15,036.00**	**$15,777.00**	**$17,140.00**	1199		6' - 0"	1/2
		75	05/48TD*75N	**$15,036.00**	**$15,777.00**	**$17,140.00**				
		100	05/48TD*100N	**$15,119.00**	**$15,965.00**	**$17,223.00**				3/4
		125	05/48TD*125N	N/A	**$15,965.00**	**$17,223.00**				
		150	05/48TD*150N	N/A	**$16,162.00**	**$17,306.00**	1219			1
	60	50	05/60TD*50N	**$15,532.00**	**$16,272.00**	**$17,635.00**	1297		7' - 6"	1/2
		75	05/60TD*75N	**$15,532.00**	**$16,272.00**	**$17,635.00**				
		100	05/60TD*100N	**$15,613.00**	**$16,462.00**	**$17,718.00**				3/4
		125	05/60TD*125N	N/A	**$16,655.00**	**$17,800.00**	1317			1
		150	05/60TD*150N	N/A	**$16,655.00**	**$17,800.00**				
7½	36	50	7.5/36TD*50N	**$14,543.00**	**$15,285.00**	**$16,647.00**	1103		4' - 6"	1/2
		75	7.5/36TD*75N	**$14,624.00**	**$15,472.00**	**$16,730.00**				3/4
		100	7.5/36TD*100N	**$14,705.00**	**$15,666.00**	**$16,810.00**	1123			1
		125	7.5/36TD*125N	N/A	**$17,706.00**	**$17,753.00**	1133			1-1/2
		150	7.5/36TD*150N	N/A	**$18,809.00**	**$19,466.00**	1153			2
	48	50	7.5/48TD*50N	**$15,119.00**	**$15,965.00**	**$17,223.00**	1199		6' - 0"	3/4
		75	7.5/48TD*75N	**$15,202.00**	**$16,162.00**	**$17,306.00**	1219			1
		100	7.5/48TD*100N	N/A	**$18,200.00**	**$18,248.00**	1229			1-1/2
		125	7.5/48TD*125N	N/A	**$18,200.00**	**$18,248.00**				
		150	7.5/48TD*150N	N/A	**$19,304.00**	**$19,964.00**	1249			2
	60	50	7.5/60TD*50N	**$15,613.00**	**$16,462.00**	**$17,718.00**	1297		7' - 6"	3/4
		75	7.5/60TD*75N	**$15,696.00**	**$16,655.00**	**$17,800.00**	1317			1
		100	7.5/60TD*100N	**$16,291.00**	**$18,694.00**	**$18,744.00**	1327			1-1/2
		125	7.5/60TD*125N	N/A	**$19,797.00**	**$20,457.00**	1347			2
		150	7.5/60TD*150N	N/A	**$19,797.00**	**$20,457.00**				

* Specify: 1 = Single Speed
2 = Two Speed
V = Variable Frequency

Kit Consists of: 2 End Trucks with bumpers & rail sweeps
1 Control panel with disconnect
2 Drives, each with brake motor & pinion
End connections are optional

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

Specify Voltage When Ordering – Components detailed in application guide.

Note: 125 & 150 fpm kits are available only in two speed control with soft start or variable frequency control.

Two speed control at 50 fpm is a 2:1 ratio. All other traverse speeds have a 3:1 ratio.

† List prices are based on 230/460/3/60 power. For 575 volt applications - See Fixed Axle Options Section.

Add for wheel bases in-between cataloged wheel bases in 6" increments - add **$167** per 6"

All prices are in US Funds.

CRANE KITS

SINGLE GIRDER TOP-RUNNING FOR CMAA CLASS "C"

MOTORIZED

DUAL (A-4) DRIVE - NEW STYLE TRUCKS FOR US (SHORT) TONS

KIT PRICING WITH NEMA 4/12 PANEL WITH DISCONNECT

Max. Capacity (tons)	Max. Span (ft.)	Max. Travel Speed (fpm)	Kit Number	LIST PRICE WITH CONTROL			KIT CONSISTS OF:			
				1-Speed	2-Speed	†Variable Frequency	Shipping Weight	Wheel Diameter	Wheel Base	Drive H.P.
10	36	50	10/36TD*50N	**$17,342.00**	**$18,085.00**	**$19,446.00**	1251	8" for use with 30-40# or 60-105# rail	4' - 6"	1/2
		75	10/36TD*75N	**$17,425.00**	**$18,272.00**	**$19,529.00**				3/4
		100	10/36TD*100N	**$17,505.00**	**$18,466.00**	**$19,610.00**	1271			1
		125	10/36TD*125N	N/A	**$20,505.00**	**$20,552.00**				1-1/2
		150	10/36TD*150N	N/A	**$21,607.00**	**$22,266.00**	1206			2
	48	50	10/48TD*50N	**$17,919.00**	**$18,766.00**	**$20,025.00**	1379		6' - 0"	3/4
		75	10/48TD*75N	**$18,002.00**	**$18,963.00**	**$20,104.00**	1399			1
		100	10/48TD*100N	**$18,594.00**	**$21,000.00**	**$21,047.00**				1-1/2
		125	10/48TD*125N	N/A	**$21,000.00**	**$21,047.00**				
		150	10/48TD*150N	N/A	**$22,104.00**	**$22,763.00**	1434			2
	60	50	10/60TD*50N	**$18,413.00**	**$19,262.00**	**$20,518.00**	1507		7' - 6"	3/4
		75	10/60TD*75N	**$18,496.00**	**$19,456.00**	**$20,600.00**	1527			1
		100	10/60TD*100N	**$19,090.00**	**$21,494.00**	**$21,544.00**				1-1/2
		125	10/60TD*125N	N/A	**$22,599.00**	**$23,257.00**	1547			2
		150	10/60TD*150N	N/A	**$22,599.00**	**$23,257.00**				
15	36	50	15/36TD*50N	**$21,790.00**	**$22,639.00**	**$23,895.00**	1457	10" for use with 30-40# or 60-105# or 135# rail	4' - 6"	3/4
		75	15/36TD*75N	**$22,465.00**	**$24,873.00**	**$24,920.00**	1477			1-1/2
		100	15/36TD*100N	**$22,465.00**	**$24,873.00**	**$24,920.00**				
		125	15/36TD*125N	N/A	**$25,974.00**	**$26,633.00**	1497			2
		150	15/36TD*150N	N/A	**$27,094.00**	**$28,325.00**	1537			3
	48	50	15/48TD*50N	**$22,367.00**	**$23,330.00**	**$24,470.00**	1605		6' - 0"	1
		75	15/48TD*75N	**$22,960.00**	**$25,366.00**	**$25,414.00**				1-1/2
		100	15/48TD*100N	**$25,182.00**	**$26,469.00**	**$27,128.00**	1625			2
		125	15/48TD*125N	N/A	**$27,585.00**	**$28,822.00**	1665			3
		150	15/48TD*150N	N/A	**$27,585.00**	**$28,822.00**				
	60	50	15/60TD*50N	**$22,862.00**	**$23,823.00**	**$24,966.00**	1733		7' - 6"	1
		75	15/60TD*75N	**$23,456.00**	**$25,861.00**	**$25,910.00**				1-1/2
		100	15/60TD*100N	**$25,677.00**	**$26,965.00**	**$27,624.00**	1753			2
		125	15/60TD*125N	N/A	**$28,081.00**	**$29,316.00**	1793			3
		150	15/60TD*150N	N/A	**$28,081.00**	**$29,316.00**				

* Specify: 1 = Single Speed
2 = Two Speed
V = Variable Frequency

Kit Consists of: 2 End Trucks with bumpers & rail sweeps
1 Control panel with disconnect
2 Drives, each with brake motor & pinion
End connections are optional

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

Specify Voltage When Ordering – Components detailed in application guide.

Note:.. 125 & 150 fpm kits are available only in two speed control with soft start or variable frequency control.

.... Two speed control at 50 fpm is a 2:1 ratio. All other traverse speeds have a 3:1 ratio.

† List prices are based on 230/460/3/60 power. For 575 volt applications - See Fixed Axle Options Section.

Add for wheel bases in-between cataloged wheel bases in 6" increments - add **$167** per 6"

CRANE KITS

SINGLE GIRDER TOP-RUNNING FOR CMAA CLASS "C"

HAND GEARED

Max. Capacity (tons)	Max. Span (ft.)	Kit Number	List Price*	Shipping Weight (lbs.)	Wheel Diameter	Wheel Base
1/2 thru 5	12	05/12TR	**$9,156.00**	853	6" for use with 25-40# Rail	4' - 6"
	22	05/22TR	**$9,320.00**	856		
	28	05/28TR	**$9,650.00**	862		
	36	05/36TR	**$9,814.00**	865		
	42	05/42TR	**$10,641.00**	967		6' - 0"
	48	05/48/TR	**$10,808.00**	970		
	52	05/52TR	**$11,467.00**	1158		7' - 6"
	60	05/60TR	**$11,634.00**	1161		
6 thru 7½	12	7.5/12TR	**$9,156.00**	943		4' - 6"
	22	7.5/22TR	**$9,320.00**	946		
	28	7.5/28TR	**$9,650.00**	952		
	36	7.5/36TR	**$9,814.00**	955		
	42	7.5/42TR	**$10,641.00**	1057		6' - 0"
	48	7.5/48TR	**$10,808.00**	1060		
	52	7.5/52TR	**$11,467.00**	1058		7' - 6"
	60	7.5/60TR	**$11,634.00**	1061		
8 thru 10	12	10/12TR	**$11,955.00**	1091	8" for use with 30-40# or 60-105# rail	4' - 6"
	22	10/22TR	**$12,120.00**	1094		
	28	10/28TR	**$12,451.00**	1100		
	36	10/36TR	**$12,617.00**	1103		
	42	10/42TR	**$13,442.00**	1237		6' - 0"
	48	10/48/TR	**$13,605.00**	1240		
	52	10/52TR	**$14,266.00**	1368		7' - 6"
	60	10/60TR	**$14,434.00**	1371		
11 thru 15	12	15/12TR	**$16,321.00**	1297	10" for use with 30-40# or 60-105# or 135# rail	4' - 6"
	22	15/22TR	**$16,485.00**	1300		
	28	15/28TR	**$16,818.00**	1306		
	36	15/36TR	**$16,982.00**	1309		
	42	15/42TR	**$17,807.00**	1443		6' - 0"
	48	15/48/TR	**$17,972.00**	1446		
	52	15/52TR	**$18,634.00**	1574		7' - 6"
	60	15/60TR	**$18,800.00**	1577		

Kit Consists of: (1) Pair of End Trucks
(1) 8282 Hand Chain with Open Link (36 ft.)
(1) 229984-1 Hand Geared Drive Adapter Kit
Cross Shaft Bearing Assemblies & Cross Shaft Coupling
(1) 913115 Hand Chain & Wheel Guide Assembly
(see chart below for quantities)

Max Span (ft.)	Cross Shaft** Bearing Assy		Cross Shaft** Coupling	
	Qty.	Catalog No.	Qty.	Catalog No.
12	1	904625	2	8280
22	2			
28	3		3	
36	4			
42	5		4	
48	6			
52	7			
60	8			

**Note: List price based on using a 1-3/16" diameter cross shaft (by others).

Add for wheel bases in-between cataloged wheel bases in 6" increments - add **$167** per 6"

All prices are in US Funds.

CRANE KITS

SINGLE GIRDER UNDERHUNG (ROLLED CHANNEL) FOR CMAA CLASS "C"

DUAL (A-4) DRIVE - NEW STYLE TRUCKS FOR U.S. (SHORT) TONS

KIT PRICING WITH NEMA 4/12 PANEL WITH DISCONNECT

Max. Capacity (tons)	Max. Span (ft.)	Max. Travel Speed (fpm)	Beam Flange Range**	Kit Number	LIST PRICE WITH CONTROL			KIT CONSISTS OF:			
					1-Speed	2-Speed	†Variable Frequency	Shipping Weight	Wheel Diameter	Wheel Base	Drive H.P.
5	36	65	4-5/8" - 6" 1-1/16" max flange thickness*	05/36UD*65N	**$18,271.00**	**$19,011.00**	**$20,377.00**	1235	6-1/2"	4' - 6"	1/2
		95		05/36UD*95N	**$18,271.00**	**$19,011.00**	**$20,377.00**				
		115		05/36UD*115N	N/A	**$19,199.00**	**$20,457.00**	1245			3/4
		135		05/36UD*135N	N/A	**$19,199.00**	**$20,457.00**				
	48	65		05/48UD*65N	**$20,040.00**	**$20,784.00**	**$22,147.00**	1345		6' - 0"	1/2
		95		05/48UD*95N	**$20,040.00**	**$20,784.00**	**$22,147.00**				
		115		05/48UD*115N	N/A	**$20,971.00**	**$22,228.00**	1365			3/4
		135		05/48UD*135N	N/A	**$20,971.00**	**$22,228.00**				
	60	65		05/60UD*65N	**$21,050.00**	**$21,791.00**	**$23,157.00**	1475		7' - 6"	1/2
		95		05/60UD*95N	**$21,134.00**	**$21,980.00**	**$23,237.00**				3/4
		115		05/60UD*115N	N/A	**$22,175.00**	**$23,322.00**	1505			1
		135		05/60UD*135N	N/A	**$22,175.00**	**$23,322.00**				
10	36	65	5-1/2" - 6" 1-1/4" max flange thickness*	10/36UD*65N	**$21,797.00**	**$22,643.00**	**$23,904.00**	1615	8"	4' - 6"	3/4
		95		10/36UD*95N	**$21,879.00**	**$22,838.00**	**$23,985.00**				1
		115		10/36UD*115N	N/A	**$24,876.00**	**$24,579.00**	1635			1-1/2
		135		10/36UD*135N	N/A	**$24,876.00**	**$24,579.00**				
	48	65		10/48UD*65N	**$23,699.00**	**$24,546.00**	**$25,804.00**	1761		6' - 0"	3/4
		95		10/48UD*95N	**$23,782.00**	**$24,742.00**	**$25,888.00**				1
		115		10/48UD*115N	N/A	**$26,780.00**	**$26,480.00**	1781			1-1/2
		135		10/48UD*135N	N/A	**$26,780.00**	**$26,480.00**				
	60	65		10/60UD*65N	**$24,181.00**	**$25,029.00**	**$26,286.00**	1903		7' - 6"	3/4
		95		10/60UD*95N	**$24,265.00**	**$25,226.00**	**$26,372.00**	1923			1
		115		10/60UD*115N	N/A	**$27,261.00**	**$26,966.00**	1983			1-1/2
		135		10/60UD*135N	N/A	**$27,261.00**	**$26,966.00**				

* Specify: 1 = Single Speed
2 = Two Speed
V = Variable Frequency

Kit Consists of: 2 End Trucks with rail sweeps
1 Control panel with disconnect
2 Drives, each with brake motor & pinion

Bumpers are optional - For thicker runway flange applications - contact factory

Specify Voltage When Ordering – Components detailed in application guide.

Note: 115 fpm and 135 fpm kits are available only in two speed control with soft-start or variable frequency control.

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

† List prices are based on 230/460/3/60 power. For 575 volt applications - See Fixed Axle Options Section.

Add for wheel bases in-between cataloged wheel bases in 6" increments - add **$288** per 6"

Description		Price
**Add for Wider Beams For 6½" & 8" Trucks	For 6-1/8" - 7½"	**$152.00**
	For 7-5/8" - 9"	**$534.00**
	For 9-1/8" - 10½"	**$732.00**
	For 10-5/8" - 12"	**$847.00**
For 3¼" Patented Track	(6-1/2" wheel only)	**$1,774.00**

All prices are in US Funds.

CRANE KITS

SINGLE GIRDER UNDERHUNG (ROLLED CHANNEL) FOR CMAA CLASS "C"

HAND GEARED

Max. Capacity (tons)	Max. Span (ft.)	Runway Beam Range		Kit Number	List Price***	Shipping Weight (lbs.)	Wheel Diameter	Wheel Base
		Width (in.)	Min. Depth (in.)					
1/2 thru 5	12	4-5/8 thru 6 1-1/16" max flange thickness*	10**	05/12UH/*	**$12,221.00**	1175	6-1/2"	4' - 6"
	22			05/22UH/*	**$12,448.00**	1178		
	28			05/28UH/*	**$12,896.00**	1184		
	36			05/36UH/*	**$13,119.00**	1187		
	42			05/42UH/*	**$14,459.00**	1313		6' - 0"
	48			05/48UH/*	**$14,689.00**	1316		
	52			05/52UH/*	**$15,277.00**	1436		7' - 6"
	60			05/60UH/*	**$15,502.00**	1439		
6 thru 10	12	5-1/2" - 6" 1-1/4" max flange thickness*	14**	10/12UH/*	**$15,949.00**	1565	8"	4' - 6"
	22			10/22UH/*	**$16,177.00**	1568		
	28			10/28UH/*	**$16,625.00**	1574		
	36			10/36UH/*	**$16,847.00**	1577		
	42			10/42UH/*	**$18,275.00**	1729		6' - 0"
	48			10/48UH/*	**$18,497.00**	1732		
	52			10/52UH/*	**$18,922.00**	1874		7' - 6"
	60			10/60UH/*	**$19,149.00**	1877		

Kit Consists of: (1) Pair of End Trucks
(1) 229984-1 Hand Geared Drive Adapter Kit
(1) 913115 Hand Chain & Wheel Guide Assembly
(1) 8282 Hand Chain with Open Link (36 ft.)
Cross Shaft Bearing Assemblies & Cross Shaft Coupling
(see chart below for quantities)

Add for wheel bases in-between cataloged wheel bases in 6" increments - add **$279** per 6"

Max Span (ft.)	Cross Shaft** Bearing Assy		Cross Shaft** Coupling	
	Qty.	Catalog No.	Qty.	Catalog No.
12	1	904625	2	8280
22	2			
28	3		3	
36	4			
42	5		4	
48	6			
52	7			
60	8			

***Note: List price based on using a 1-3/16" diameter cross shaft (by others).**

*IDENTIFY FLANGE WIDTH AND ADDER

Code No.		Flange Width	Add
1	=	4-5/8 - 6	**$0.00**
2	=	6-1/8 - 7-1/2	**$103.00**
3	=	7-5/8 - 9	**$359.00**
4	=	9-1/8 - 10-1/2	**$498.00**
5	=	10-5/8 - 12	**$560.00**
6	=	Patented track (6½" wheel only)	**$1,477.00**

For thicker runway flange applications - contact factory

**Please see page 12 in the Crane Components Specification Catalog for calculating more precise minimum beam depths.

All prices are in US Funds.

SPECIAL INFORMATION

DOUBLE GIRDER FIXED AXLE KIT NUMBERING SYSTEM

Pricing and ordering quality Yale® Shaw-Box® Components to build a Double Girder Top-Running Crane has just been made easier. The value package kit numbering system is designed to ensure that you get the correct combinations of features and components required to build your crane. You also have the ability to add options to the kits or purchase specific individual components.

EXAMPLE:

8	F	7.5 /.75	- 1	- *
A	B	C D	E	F

A = Wheel diameter in inches

B = Type of wheel

- **F =** Fixed Axle

C = Wheelbase in feet

D = H.P. of each drive motor

E = Speed points of control (you fill in). 1-speed, 2-speed, V-Variable Frequency

F = Traverse Speed

Specify Power Supply with order.

Individual bridge components are found near the end of this catalog.

CRANE KITS

DOUBLE GIRDER FOR CMAA CLASS "C"

SINGLE SPEED KITS (DO NOT USE FOR SPEEDS OVER 100 F.P.M.)

Kit Number	Wheel Diameter (in.)	Wheel Base	Motor**H.P.	List Prices		Weight (lbs.)	Wheel Base Adder	
				Package Price	Control Deduct		9'	10' - 6"
8F7.5/.75-1-*	8	7' - 6"	3/4	**$18,413.00**	**$3,148.00**	1387	**$498.00**	**$994.00**
8F7.5/1.0-1-*			1	**$18,496.00**	**$3,148.00**	1407	**$498.00**	**$994.00**
8F7.5/1.5-1-*			1-1/2	**$19,090.00**	**$3,148.00**	1407	**$498.00**	**$994.00**
8F7.5/2.0-1-*			2	**$19,875.00**	**$3,717.00**	1427	**$498.00**	**$994.00**
8F7.5/3.0-1-*			3	**$20,661.00**	**$4,292.00**	1467	**$498.00**	**$994.00**
10F7.5/1.0-1-*	10	7' - 6"	1	**$22,862.00**	**$3,148.00**	1613	**$498.00**	**$994.00**
10F7.5/1.5-1-*			1-1/2	**$23,456.00**	**$3,148.00**	1613	**$498.00**	**$994.00**
10F7.5/2.0-1-*			2	**$24,239.00**	**$3,717.00**	1633	**$498.00**	**$994.00**
10F7.5/3.0-1-*			3	**$25,027.00**	**$4,292.00**	1673	**$498.00**	**$994.00**

TWO SPEED KITS (USE WITH E.A.C. FOR SPEEDS OVER 100 F.P.M.)

Kit Number	Wheel Diameter (in.)	Wheel Base	Motor** H.P.	LIST PRICES		Weight (lbs.)	Wheel Base Adder	
				Package Price	Control Deduct		9'	10' - 6"
8F7.5/.75-2-*	8	7' - 6"	3/4	**$19,262.00**	**$3,266.00**	1407	**$498.00**	**$994.00**
8F7.5/1.0-2-*			1	**$19,456.00**	**$3,266.00**	1427	**$498.00**	**$994.00**
8F7.5/1.5-2-*			1-1/2	**$21,494.00**	**$3,266.00**	1427	**$498.00**	**$994.00**
8F7.5/2.0-2-*			2	**$22,599.00**	**$3,927.00**	1447	**$498.00**	**$994.00**
8F7.5/3.0-2-*			3	**$23,718.00**	**$4,604.00**	1487	**$498.00**	**$994.00**
10F7.5/1.0-2-*	10	7' - 6"	1	**$23,823.00**	**$3,266.00**	1633	**$498.00**	**$994.00**
10F7.5/1.5-2-*			1-1/2	**$25,861.00**	**$3,266.00**	1633	**$498.00**	**$994.00**
10F7.5/2.0-2-*			2	**$26,965.00**	**$3,927.00**	1653	**$498.00**	**$994.00**
10F7.5/3.0-2-*			3	**$28,081.00**	**$4,604.00**	1693	**$498.00**	**$994.00**

* Specify: 1 = Single Speed
2 = Two Speed
V = Variable Frequency

Kit Consists of: 2 End Trucks with Bumpers
1 NEMA 4/12 Control Panel with disconnect

Drives, each with: Motor, AC Disc Brake, Reducer, Drive Pinion

* Specify: Traverse Speed Rail Size

Specify Voltage When Ordering

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

Note: Drives are shipped assembled but not mounted to the trucks. Add 5% to weights for approximate shipping weights.

** When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

All prices are in US Funds.

CRANE KITS

DOUBLE GIRDER FOR CMAA CLASS "C"

VARIABLE FREQUENCY DRIVE KITS (2 STEP INFINITELY VARIABLE BASED ON 460 VOLTS)

Based on Individual (A-4) Drives (Cont.) †

Kit Number	Wheel Diameter (in.)	Wheel Base	Motor** H.P.	LIST PRICES		Weight (lbs.)	Wheel Base Adder	
				Package Price	Control Deduct		9'	10' - 6"
8F7.5/.75-V-*	8	7' - 6"	3/4	**$20,518.00**	**$5,252.00**	1367	**$498.00**	**$994.00**
8F7.5/1.0-V-*			1	**$20,600.00**	**$5,252.00**	1387	**$498.00**	**$994.00**
8F7.5/1.5-V-*			1-1/2	**$21,544.00**	**$5,601.00**	1387	**$498.00**	**$994.00**
8F7.5/2.0-V-*			2	**$23,257.00**	**$7,100.00**	1407	**$498.00**	**$994.00**
8F7.5/3.0-V-*			3	**$24,949.00**	**$8,583.00**	1407	**$498.00**	**$994.00**
10F7.5/1.0-V-*	10	7' - 6"	1	**$24,966.00**	**$5,252.00**	1593	**$498.00**	**$994.00**
10F7.5/1.5-V-*			1-1/2	**$25,910.00**	**$5,601.00**	1593	**$498.00**	**$994.00**
10F7.5/2.0-V-*			2	**$27,624.00**	**$7,100.00**	1613	**$498.00**	**$994.00**
10F7.5/3.0-V-*			3	**$29,316.00**	**$8,583.00**	1613	**$498.00**	**$994.00**

* Specify: 1 = Single Speed
2 = Two Speed
V = Variable Frequency

Kit Consists of: 2 End Trucks with Bumpers
1 NEMA 4/12 Control Panel with disconnect

Drives, each with: Motor, AC Disc Brake, Reducer, Drive Pinion

* Specify: Traverse Speed Rail Size

Specify Voltage When Ordering

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

Note: Drives are shipped assembled but not mounted to the trucks. Add 5% to weights for approximate shipping weights.

** When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

†For 575 volt applications - See Fixed Axle Options Section.

All prices are in US Funds.

SPECIAL INFORMATION

COMPONENTS ONLY

This section contains individual double girder crane components for fixed axle end trucks.
Price for the following components are found in this section:

End Trucks

Drive Reducers

Motors and Brake

Control Panels

NEW FIXED AXLE, TOP-RUNNING TUBE-FRAME END TRUCK CATALOG NUMBERING SYSTEM FOR END TRUCK ONLY

The following end truck catalog numbering system makes ordering a pair of end trucks for a specific application easier and ensures that you will receive exactly what you ordered.

Example - Typical Single Girder Truck

Catalog Number as Cataloged - Less Options

EXAMPLE:
TRFA6072AR2

TRFA6	072	A	R2
A	B	C	D

A Truck Type & Wheel Diameter
- **TRFA6** Top-Running, fixed axle - 6" diameter wheel
- **TRFA8** Top-Running, fixed axle - 8" diameter wheel
- **TRFA10** Top-Running, fixed axle - 10" diameter wheel

B Wheelbase - Inches

C Runway Rail Size
- **A** 30# - 40# ASCE
- **B** 60# - 105# ASCE

D Bumper Type*

*To ensure proper bumper selection check pages 51-54 in the Yale® Shaw-Box® Crane Components Specification Book #CS/L-1002-0505.

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

TOP-RUNNING

SINGLE GIRDER FIXED AXLE END TRUCKS
1 PAIR WITH CONICAL BUMPERS AND WELDED RAIL SWEEPS

Catalog Number	Max. Cap. (tons)	Wheel Base	A.S.C.E. Rail	List Price	Wt. (lbs.)
TRFA6054AR2	7.5*	4'-6"	25 - 40# (6" wheel)	**$6,273.00**	744
TRFA6072AR2		6'-0"		**$6,767.00**	840
TRFA6090AR2		7'-6"		**$7,262.00**	938
TRFA8054AR3	10	4'-6"	30 - 40# (8" wheel)	**$9,073.00**	892
TRFA8072AR3		6'-0"		**$9,569.00**	1020
TRFA8090AR3		7'-6"		**$10,061.00**	1148
TRFA8054BR3		4'-6"	60 - 105# (8" wheel)	**$9,073.00**	892
TRFA8072BR3		6'-0"		**$9,569.00**	1020
TRFA8090BR3		7'-6"		**$10,061.00**	1148
TRFA10054BR3	15	4'-6"	30 - 40#, 60 - 105# or 135# (10" wheel)	**$13,439.00**	1098
TRFA10072BR3		6'-0"		**$13,934.00**	1226
TRFA10090BR3		7'-6"		**$14,427.00**	1354

DOUBLE GIRDER FIXED AXLE END TRUCKS
1 PAIR WITH CONICAL BUMPERS AND RAIL SWEEPS

Catalog Number	Wheel Dia.	Wheel Base	A.S.C.E. Rail	List Price	Wt. (lbs.)
TRFA8090AR3	8"	7'-6"	30 - 40#	**$10,061.00**	1148
TRFA8108AR3		9'-0"		**$10,559.00**	1276
TRFA8126AR3		10'-6"		**$11,051.00**	1404
TRFA8090BR3		7'-6"	60 - 105#	**$10,061.00**	1148
TRFA8108BR3		9'-0"		**$10,559.00**	1276
TRFA8126BR3		10'-6"		**$11,051.00**	1404
TRFA10090AR4	10"	7'-6"	30 - 40#	**$14,427.00**	1354
TRFA10108AR4		9'-0"		**$14,924.00**	1482
TRFA10126AR4		10'-6"		**$15,418.00**	1610
TRFA10090BR4		7'-6"	60 - 105# or 135#	**$14,427.00**	1354
TRFA10108BR4		9'-0"		**$14,924.00**	1482
TRFA10126BR4		10'-6"		**$15,418.00**	1610

Add for wheel bases in-between cataloged wheel bases in 6" increments.....**$167**

DRIVES
FOR TOP-RUNNING OR UNDERHUNG TRUCKS

1-Speed - For use with 1-speed contactor or variable frequency control. 1 pair with brake, motor, reducer & pinion - For either 230/460 or 575 volts - SPECIFY speed and voltage with order.

Catalog Number	H.P.	List Price	Wt. (lbs.)
913460	1/2	**$5,129.00**	164
913462	3/4	**$5,209.00**	164
913464	1	**$5,291.00**	184
913466	1-1/2	**$5,886.00**	184
913468	2	**$6,105.00**	204
913469	3	**$6,314.00**	204

Note: Do not use 1-speed drives on traverse speeds over 100 fpm.

DRIVES
FOR TOP-RUNNING OR UNDERHUNG TRUCKS

2-Speed - For use with 2-speed contactor controls 1 pair with brake, motor, reducer & pinion - For either 230/460 or 575 volts - SPECIFY speed and voltage with order.

Catalog Number	H.P.	List Price	Wt. (lbs.)
913470	1/2	**$5,755.00**	174
913471	3/4	**$5,939.00**	174
913472	1	**$6,137.00**	194
913473	1-1/2	**$8,174.00**	194
913474	2	**$8,618.00**	214
913475	3	**$9,059.00**	214

Note: Two speed drives over 100 fpm must have solid state soft starts included with the controls.

"WHALES TAIL" END CONNECTION
(FOR TOP-RUNNING ONLY)

Following kit consists of two end connections for a single girder crane. Can be used for either a welded or bolted connection. To 60 foot maximum span.

*2 kits required for double girder applications.

444697-10, 275 lbs.

When purchasing with components **$1,531.00**

When purchasing end connections only **$1,676.00**

HAND GEARED OPTIONS
HAND GEARED DRIVE ADAPTER KIT

The adapter contains a drive pinion mounted on a bearing supported stub shaft. The adapter bolts into the same threaded bolt hole arrangement that the gear reducer bolts into. The live shaft (by others) couples to the stub shaft.

229984-1 1 pair of adapters..... **$1,499.00**

Following are component options for the trucks that can be used to fabricate hand geared bridge cranes.

Catalog Number	List Price	Wt. (lbs.)
Cross Shaft Bearing		
904625 (1-3/16 Dia.)	**$168.00**	3
912112 (1-5/16 Dia.)	**$259.00**	5
Cross Shaft Coupling		
8280 (1-3/16 Dia.)	**$167.00**	3
912122 (1-5/16 Dia.)		6
Hand Chain Wheel and Guide		
913115 (1-3/16 Bore)	**$602.00**	10
33218903 (1-3/16 Bore)		
912116 (1-5/16 Bore)		
Hand Chain with Link		
8282 (36'-0" LG)	**$297.00**	20
Additional Hand Chain		
Per Linear Foot	**$6.85**	—

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

UNDERHUNG

END TRUCKS
1 PAIR WITH RAIL SWEEPS, BUMPERS OPTIONAL

Catalog Number	Max Flange Thickness	Max. Cap. (tons)	Wheel Dia.	Wheel Base	Flange Width	List Price	Wt. (lbs.)
44635001	1-1/16"	5	6-1/2"	4'-6"	4-5/8 to 6"	**$10,000.00**	976
44635002					6-1/8 to 7-1/2"	**$10,127.00**	994
44635003					7-5/8 to 9"	**$10,424.00**	1010
44635004					9-1/8 to 10-1/2"	**$10,583.00**	1028
44635005					10-5/8 to 12"	**$10,665.00**	1044
44635043					3-1/4" Patented Track	**$11,773.00**	950
44635006				6'-0"	4-5/8 to 6"	**$11,018.00**	1096
44635007					6-1/8 to 7-1/2"	**$11,157.00**	1114
44635008					7-5/8 to 9"	**$11,463.00**	1130
44635009					9-1/8 to 10-1/2"	**$11,659.00**	1148
44635010					10-5/8 to 12"	**$11,735.00**	1164
44635044					3-1/4" Patented Track	**$12,783.00**	1050
44635011				7'-6"	4-5/8 to 6"	**$11,686.00**	1216
44635012					6-1/8 to 7-1/2"	**$11,815.00**	1234
44635013					7-5/8 to 9"	**$12,151.00**	1250
44635014					9-1/8 to 10-1/2"	**$12,334.00**	1268
44635015					10-5/8 to 12"	**$12,425.00**	1284
44635045					3-1/4" Patented Track	**$13,445.00**	1175
44635301	1-1/4"	10	8"	4'-6"	5-1/2 to 6"	**$14,239.00**	1366
44635302					6-1/8 to 7-1/2"	**$14,375.00**	1384
44635303					7-5/8 to 9"	**$14,725.00**	1404
44635304					9-1/8 to 10-1/2"	**$14,930.00**	1422
44635305					10-5/8 to 12"	**$15,020.00**	1440
44635306				6'-0"	5-1/2 to 6"	**$15,347.00**	1512
44635307					6-1/8 to 7-1/2"	**$15,491.00**	1530
44635308					7-5/8 to 9"	**$15,876.00**	1550
44635309					9-1/8 to 10-1/2"	**$16,078.00**	1560
44635310					10-5/8 to 12"	**$16,174.00**	1586
44635311				7'-6"	5-1/2 to 6"	**$15,831.00**	1654
44635312					6-1/8 to 7-1/2"	**$15,979.00**	1672
44635313					7-5/8 to 9"	**$16,360.00**	1692
44635314					9-1/8 to 10-1/2"	**$16,557.00**	1710
44635315					10-5/8 to 12"	**$16,655.00**	1728

UNDERHUNG BRIDGE BUMPER KITS (SHIPPED LOOSE)
NOTE: 2 KITS REQUIRED FOR EACH PAIR OF END TRUCKS (8 BUMPERS TOTAL)

Bridge Bumpers		List Price
23255301	6½" Wheel Dia. Truck - Includes 4 bumpers total	**$129.00**
23255302	8" Wheel Dia. Truck - Includes 4 bumpers total	**$166.00**

Add for wheel bases in-between cataloged wheel bases in 6" increments..... **$288.00**

4' - 0" Wheel base Underhung Trucks Add per pair of 4-6" end trucks..... **$1,319.00**

CENTER END TRUCK
UNDERHUNG TRUCKS ONLY

Price for one Center Truck..... Use 60% of List Price for std. End Truck

UNDERHUNG END TRUCK SPACER KITS*

End truck spacer kits permit modification of the end truck to run on a different runway beam flange width range. End trucks can be modified to run on larger or smaller flange width ranges by removing the spacers shipped with the truck and replacing with different spacers.

Prices are per truck, order two kits for one pair of trucks. The spacer kits consist of two steel spacer blocks, they do not include pinion shafts or pinions.

Catalog Number	Runway Beam Flange Width	List Price	Wt. (lbs.)
23255601	4-5/8" to 6"	**$606.00**	60
23255602	6-1/8" to 7-1/2"	**$643.00**	70
23255603*	7-5/8" to 9"	**$752.00**	80
23255604*	9-1/8" to 10-1/2"	**$754.00**	90
23255605*	10-5/8" to 12"	**$780.00**	100

*UNDERHUNG END TRUCK PINION KITS

In addition to different spacer blocks, you must order longer or shorter pinion shafts. Following are pinion kits to use depending on if you are going up or down in flange width range.

For trucks with a flange width range of 4-5/8" to 7-1/2" pinion kit No. 23255701 is required, 13-13/16" pinion, one kit per truck.

Price for one Pinion kit No. 23255701.....**$597.00**

For trucks with a flange width range of 7-5/8" and up, pinion kit No. 23255702 is required, 17-5/8" pinion, one kit per truck.

Price for one Pinion kit No. 23255702.....**$656.00**

6-1/2" TD trucks to fit 4" or 4.5" patented track

Use same price as 3-1/4" track

8" TD trucks to fit 4.5" patented track **$2,592.00**

8" TD trucks to fit 5" wide flange.....**$1,793.00**

8" TD trucks only- 12-1/8" to 13" wide **$4,922.00**

Spark Resistant Features – See Options Page

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

TOP-RUNNING & UNDERHUNG

FIXED AXLE

Description	List Price
NEMA 4 Brake	
(For outdoor applications)	**$383.00**
NEMA 4X Enclosure Adders	
Fiberglass	**$1,226.00**
Stainless Steel	**$2,670.00**
Strip Heater Package	
(Non Hazardous areas only) Includes: Heaters in both motors & control panel with transformer	**$1,517.00**
Warning Horn	
(must specify method of activation)	**$766.00**
Warning Light	
(must specify method of activation)	**$1,280.00**
Travel Limit Switch **Two Switches, Bi-Directional (Trip Dog by others)**	
NEMA 4/12	**$1,524.00**
Intrinsically safe (Hazardous area)	**$2,331.00**
Disconnect Panel Adders:	
60 Amp Panel	**$462.00**
100 Amp Panel	**$600.00**
Export Crate, non-stackable	
Per pair of end trucks	**$1,751.00**

Description	List Price
Thermal Overload Relays	
Single Speed	**$398.00**
2-Speed	**$688.00**
Adjustable EAC (115 Volt Control)	
208/230 Volt, 1-2 HP	**$1,175.00**
208/230 Volt, 3-6 HP	**$2,610.00**
460 Volt, 1-4 HP	**$1,175.00**
460 Volt, 5-10 HP	**$2,610.00**
Variable Frequency Drive **575/3/60 Volt Price Adder to standard 460 VFD Panels**	
3/4 Maximum Motor HP	**$8,286.00**
1 Maximum Motor HP	**$8,286.00**
½ Maximum Motor HP	**$8,286.00**
2 Maximum Motor HP	**$8,286.00**
3 Maximum Motor HP	**$7,901.00**

EXPLOSION PROOF/SPARK RESISTANT OPTIONS

Description	List Price
Aluminum Hand Chain (per foot of drop)	**$25.00**

SPARK RESISTANT BRONZE WHEELS (PRICE PER PAIR OF TRUCKS)

Description	List Price
Top-Running	
6" Bronze Wheels - per pair of trucks	**$7,632.00**
with Rail Sweeps	**$8,833.00**
8" Bronze Wheels	**$16,864.00**
with Rail Sweeps	**$18,214.00**
10" Bronze Wheels	**$24,783.00**
with Rail Sweeps	**$26,824.00**
Underhung	
6½" Bronze Wheels (max. WLL: 6,500 lbs. per pair) - per pair of trucks	**$9,556.00**
with Rail Sweeps	**$10,774.00**
8" Bronze Wheels (max. WLL: 12,700 lbs. per pair)	**$13,105.00**
with Rail Sweeps	**$15,344.00**

*EXPLOSION PROOF MOTOR/CONTROL** - ADD TO STANDARD FIXED AXLE KITS IN THIS CATALOG

Division 1			Division 2				
Class 1, Group C & D Class 2, Group F & G		Drive HP	Class 1, Group C & D		Drive HP	Class 2, Group F & G	
1-Speed	2-Speed		1-Speed	2-Speed		1-Speed	2-Speed
$21,741.00	**$25,670.00**	1/2	**$9,006.00**	**$11,678.00**	1/2	**$2,649.00**	**$3,959.00**
$21,741.00	**$25,670.00**	3/4	**$9,006.00**	**$11,678.00**	3/4	**$2,649.00**	**$3,959.00**
$21,741.00	**$25,670.00**	1	**$9,006.00**	**$11,678.00**	1	**$2,649.00**	**$3,959.00**
$24,461.00	**$25,699.00**	1-1/2	**$11,597.00**	**$11,709.00**	1-1/2	**$2,649.00**	**$3,959.00**
$24,461.00	**$25,699.00**	2	**$11,597.00**	**$11,709.00**	2	**$2,649.00**	**$3,959.00**
$24,461.00	**$25,699.00**	3	**$11,597.00**	**$11,709.00**	3	**$2,649.00**	**$3,959.00**

* Includes Intrinsically Safe Control Circuit, except Class 2 Group F & G, Division 2

**For VFD Controls - Contact Factory

All prices are in US Funds.

BRIDGE CONTROL PANELS - FIXED AXLE

1 AND 2 SPEED BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITHOUT SOFT-START

Price Includes:

Feature:	**1-3 h.p.**	**5-10 h.p.**
NEMA 4/12 Panel	20 W x 16 H x 8.8" D*	24 W x 20 H x 10.8" D
Mainline Contactor	30 Amp**	60 Amp**
Control Transformer	115V/75VA	115V/100VA
Disconnect with Panel Mounted Handle	30 Amp**	60 Amp**
Fuses	Yes	Yes
Soft-Start	No	No
Hinge Point	Horizontal at bottom of panel	Horizontal at bottom of panel

*Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

Do not use single speed control for speeds over 100 F.P.M. Two speed control over 100 F.P.M. requires an electronic acceleration control.

For Maximum Total H.P.	Voltage	Single Speed			Two Speed		
		Catalog Number	List Price	Weight (lbs.)	Catalog Number	List Price	Weight (lbs.)
1	230	44423121	**$3,057.00**	75	44423221	**$3,171.00**	85
2		44423122	**$3,057.00**		44423222	**$3,171.00**	
3		44423123	**$3,057.00**		44423223	**$3,171.00**	
5		44423125	**$3,609.00**	115	44423225	**$3,811.00**	125
7.5		44423127	**$4,165.00**		44423227	**$4,469.00**	
10		44423129	**$4,165.00**		44423229	**$4,469.00**	
1	460	44423141	**$3,057.00**	75	44423241	**$3,171.00**	85
2		44423142	**$3,057.00**		44423242	**$3,171.00**	
3		44423143	**$3,057.00**		44423243	**$3,171.00**	
5		44423145	**$3,609.00**	115	44423245	**$3,811.00**	125
7.5		44423147	**$4,165.00**		44423247	**$4,469.00**	
10		44423149	**$4,165.00**		44423249	**$4,469.00**	
1	575	44423151	**$3,057.00**	75	44423251	**$3,171.00**	85
2		44423152	**$3,057.00**		44423252	**$3,171.00**	
3		44423153	**$3,057.00**		44423253	**$3,171.00**	
5		44423155	**$3,609.00**	115	44423255	**$3,811.00**	125
7.5		44423157	**$4,165.00**		44423257	**$4,469.00**	
10		44423159	**$4,165.00**		44423259	**$4,469.00**	

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

Note: Panel has room for addition of field installed soft-start. Reference components sections for prices.

Note: For approximate shipping weights add 10%

All prices are in US Funds.

BRIDGE CONTROL PANELS - FIXED AXLE

1 AND 2 SPEED BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITH SOFT-START

Price Includes:

Feature:	**1-3 h.p.**	**5-10 h.p.**
NEMA 4/12 Panel	20 W x 16 H x 8.8" D*	24 W x 20 H x 10.8"D
Mainline Contactor	30 Amp**	60 Amp**
Control Transformer	115V/75VA	115V/100VA
Disconnect with Panel Mounted Handle	30 Amp**	60 Amp**
Fuses	Yes	Yes
Soft-Start	Yes	Yes
Hinge Point	Horizontal at bottom of panel	Horizontal at bottom of panel

*Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

Do not use single speed control for speeds over 100 F.P.M. Two speed control over 100 F.P.M. requires an electronic acceleration control.

For Maximum Total H.P.	Voltage	Single Speed			Two Speed		
		Catalog Number	List Price	Weight (lbs.)	Catalog Number	List Price	Weight (lbs.)
1	230	44471121	**$4,238.00**	85	44471221	**$4,342.00**	95
2		44471122	**$4,238.00**		44471222	**$4,342.00**	
3		44471123	**$6,225.00**	125	44471223	**$6,427.00**	135
5		44471125	**$6,225.00**		44471225	**$6,427.00**	
7.5		—	—		—	—	
10		—	—		—	—	
1	460	44471141	**$3,758.00**	85	44471241	**$4,053.00**	95
2		44471142	**$4,238.00**		44471242	**$4,342.00**	
3		44471143	**$5,673.00**	125	44471243	**$5,791.00**	135
5		44471145	**$6,225.00**		44471245	**$6,427.00**	
7.5		44471147	**$6,782.00**		44471247	**$6,931.00**	
10		44471149	**$6,782.00**		44471249	**$6,931.00**	

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

Note: Panel has room for addition of field installed soft-start. Reference components sections for prices.

All prices are in US Funds.

BRIDGE CONTROL PANELS - FIXED AXLE

VARIABLE FREQUENCY BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITH BUILT-IN DISCONNECT

For Bridge Traverse Motions
Speed range up to 20:1 (in F.P.M.)

Price Includes:

Feature:	**1-3 h.p.**	**5-10 h.p.**
IMPULSE Drive Type	IMPULSE·G+ Mini	IMPULSE·G+ Mini
Control only CMAA Service Class	D	D
NEMA 4/12 Panel	20 W x 16 H x 8.5 D*	24 W x 20 H x 10.5 D
Control Points	2-step, 3-step or 2-step & 3-step	2-step, 3-step & 5-step or 2-step & 3-step infinitely variable
Mainline Contactor	infinitely variable	
Control Transformer	30 Amp	60 Amp*
Disconnect with Panel Mounted Handle	115V / 75VA	115V / 75VA
External Dynamic Braking Resistor	30 Amp	60 Amp
Fuses	Yes	Yes
Hinge Point	Yes	Yes
		Horizontal at bottom of panel

Includes: AC Brake Relay (12 amp), Surge Suppression on Coil and Space Terminal Board (10 terminals)

Max. Total H.P.	Power Supply	** Max. Full Load Amps	List Price	Catalog Number	*** Wt. (lbs.)	Power Supply	** Max. Full Load Amps	List Price	Catalog Number	*** Wt. (lbs.)
1	200 to 230 Volts 50/60 Hz	5.0	**$4,900.00**	44855021	80	380 to 460 Volts 50/60 Hz	3.4	**$5,099.00**	44855041	80
2		8.0	**$5,300.00**	44855022			3.4	**$5,099.00**	44855042	
3		11.0	**$5,533.00**	44855023			4.8	**$5,438.00**	44855043	105
5		17.5	**$6,750.00**	44855025	105		8.6	**$6,893.00**	44855045	
7½		25.0	**$7,898.00**	44855027			14.8	**$8,331.00**	44855047	
10		33.0	**$8,641.00**	44855029			18.0	**$9,240.00**	44855049	

* 3 hp panel for 460 volts is 24 W X 20 H X 10.5 D. *Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

*** Add 15% for approximate shipping weight.

† For 575 volt applications - See Fixed Axle Options Section.

All prices are in US Funds.

INTEGRAL AXLE CRANE KITS & COMPONENTS

SECTION CONTENTS:

METRIC WHEEL TOP-RUNNING INTEGRAL AXLE PLUG & PLAY CRANE KITS & COMPONENTS

COLUMBUS McKINNON CORPORATION

CRANE KIT OPTIONS

YALE YK OR SHAW-BOX SK HOIST OPTIONS

Description				List Price
Variable Frequency Trolley Control - Note: VFD Trolley (with 2 speed lift)				
Capacity	**2-Speed Trolley HP**	**VFP Trolley HP**	**Voltage**	**List Price**
YKA, YKB & YKC (up to 10 Ton)	0.6	1.2	460, 230, or 208v	**$930.00**
	0.9	1.2		
YKC 12.5 Ton & YKD 15 Ton	2.0	1.2		
YKC 15 Ton	2.0	3.5		**$1,184.00**

Note: 2 step infinitely variable. Standard speed 80 fpm with 10:1 speed range.

OPTIONS FOR INTEGRAL AXLE CRANE KITS

Travel Limit Switch	
Single Switch, Bi-Directional (Trip Dog by others) NEMA 4/12	**$736.00**
Pendant Drop	
(Adder or deduct from standard hoist drop - per ft.)	**$10.35**
Festoon Cross Arm J Clips for Girders with Channel Cap:	
P/N 451846J2 (up to 20' span)	**$129.00**
P/N 451846J4 (20' to 40' span)	**$202.00**
P/N 451846J6 (40' to 60' span)	**$276.00**
Note: Some options will extend lead times. *Note: For hoist and trolley options, refer to the appropriate Hoist Price List	

Description	List Price
Corrosion Resistant Bronze Wheels & Rail Sweeps	
115 mm (4.5") Bronze Wheels (set of 4)	**$5,106.00**
With rail sweeps (set of 4)	**$7,501.00**
160 mm (6.3") Bronze Wheels (set of 4)	**$9,774.00**
With rail sweeps (set of 4)	**$12,826.00**
200 mm (7.9") Bronze Wheels (set of 4)	**$16,136.00**
With rail sweeps (set of 4)	**$20,640.00**
260 mm (10.2") Bronze Wheels (set of 4)	**$26,971.00**
With rail sweeps (set of 4)	**$32,074.00**

RAIN COVERS

RAIN COVERS		
Rain Covers and Heat Protection All End Trucks		**List Price**
End-truck motor	2-gear motors	**$1,066.00**

STAINLESS STEEL PANELS – NEMA 4X

STAINLESS STEEL PANELS – NEMA 4X	
All VFD Bridge Panels	**List Price**
VFD panels (*)	**$3,238.00**

(*) Including stainless steel braking resistor if mounted outside of the panel

HAND GEARED OPTIONS

Each kit contains all the necessary parts* (except hand chain) for spans up to 28'. For spans over 28', please refer to the additional parts list. Additional parts are needed for each 8' span over the 28' span.

Kit Number	Size End Truck	Customer Supplied Cross Shaft Size	List Price
45257001	115 mm (4.5") Wheels	1-3/16"	**$2,513.00**
45257002	160 mm (6.3") Wheels	1-5/16"	**$3,404.00**
45257003	200 mm (7.9") and 260 mm (10.2") Wheels	1-3/16"	**$5,354.00**

ADDITIONAL PARTS

Part Number	Description	Qty needed for each 8' over the 28' kit span	List Price
8282	Hand Chain with link - 36' (approx. 18' of hand chain drop from hand chain wheel)	1 needed per kit - All spans	**$288.00**
	Additional Hand Chain - per foot	Needed only if longer hand chain drop is required	**$6.70**
8280	Coupling Kit for kit #45257001 - 1-3/16"	1	**$162.00**
904625	Pillow Block Kit for kit #45257001 & #45257003 - 1-3/16"	1	**$164.00**
912122	Coupling Kit for kit #45257002 - 1-5/16"	1	**$162.00**
912112	Pillow Block Kit for kit #45257002 - 1-5/16"	1	**$251.00**

*Note: Please refer to the Parts and Service Manual for a complete listing of all parts supplied in each kit.

All prices are in US Funds.

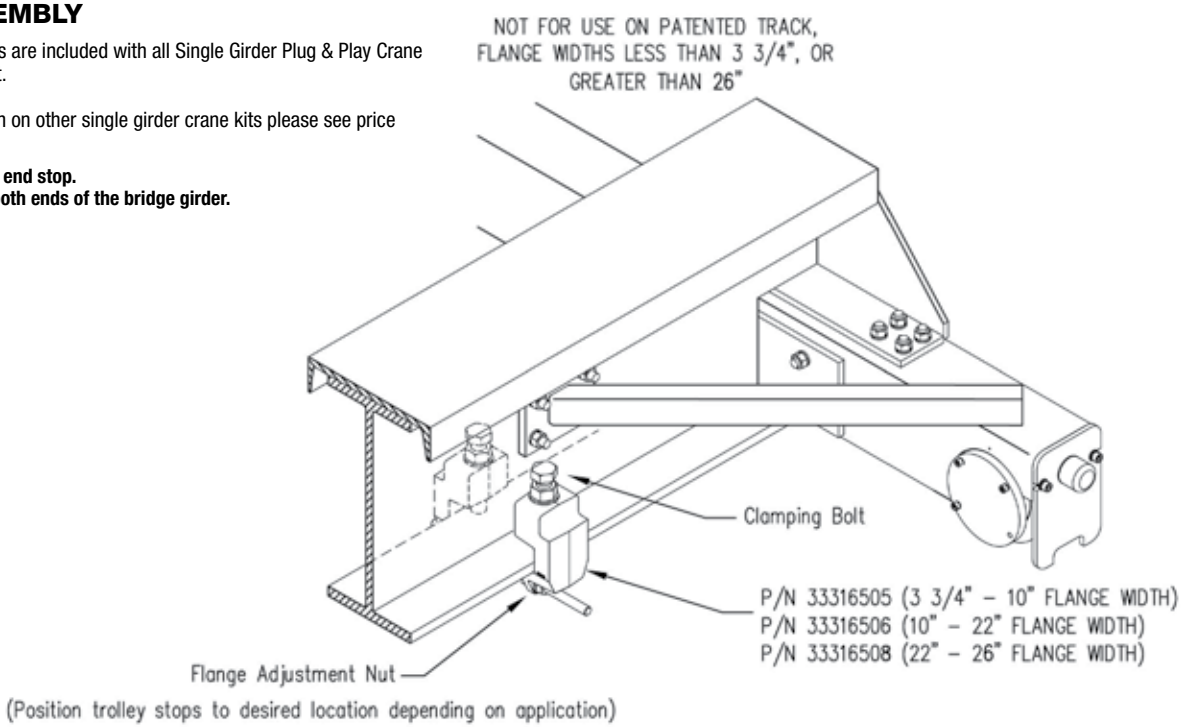
CRANE KIT BRIDGE OPTIONS

END STOP ASSEMBLY

Trolley End Stop Assemblies are included with all Single Girder Plug & Play Crane Kits as standard equipment.

To order for field installation on other single girder crane kits please see price chart below.

NOTE: Each kit includes (1) end stop.
Order (2) kits for stops at both ends of the bridge girder.



Part Number	Flange Range	List Price
33316505	3-3/4" - 10"	**$323.00**
33316506	10" - 22"	**$339.00**
33316508	22" - 26"	**$347.00**

INSTALLING END STOPS

1. Locate and weld trolley stop angles or install end stop assemblies in the desired position on the girder depending on your application.

2. Ensure that the trolley stop angles or end stops are positioned to make contact with the trolley bumpers.

3. If you are installing the adjustable end stop assemblies, once they are positioned correctly, tighten the flange adjustment nut to 48 ft. lbs. torque and the clamping nut to 207 ft. lbs. torque.

All prices are in US Funds.

SPECIFICATIONS

METRIC WHEEL TOP-RUNNING INTEGRAL AXLE COMPONENTS

CAPACITY:	1-15 Ton Single Girder 5-20 Ton Double Girder
SERVICE CLASS:	Meets the duty requirements of CMAA Class C Service as standard. CMAA Class D Service qualified upon application
OPERATION:	Indoor
WHEELS:	Flat Tread, Cast ductile iron hardened to 300 - 350 BHN
BUMPERS:	Rubber Cylindrical type
TRAVERSE GEARING:	Helical, heat-treated alloy steel, totally enclosed operating in an oil bath
TRAVERSE BRAKE:	Minimum 50% torque, disc type, DC rectified, IP55 enclosure
TRAVERSE MOTOR:	S-3 rated with Class F insulation. Single speed, IP55 enclosure, TEFC
CONTROL:	Variable frequency type.
BEARINGS:	Antifriction type throughout

SPECIAL INFORMATION FOR END TRUCKS AND DRIVE COMPONENTS

INTEGRAL AXLE INDIVIDUAL COMPONENTS

This section contains individual single and double girder crane components. Pricing for the following components are found in this section:

End Trucks with Gear Motors

Variable Frequency Control Panels

The following end truck catalog numbering system makes ordering a pair of end trucks for a specific application easier and ensures that you will receive exactly what you ordered.

Example - Typical Double Girder Truck

Catalog Number as Cataloged - Less Options

EXAMPLE:
160TD105HD110

160	T	D	105	H	D	1	10	—
E	N	D	T	R	U	C	K	S

Note: Order acknowledgements will indicate the first 3 fields of your selected catalog number along with a description of your truck features:

EXAMPLE: 160TDTRUCK

E Wheel Diameter

115	115 mm (4.5")
160	160 mm (6.3")
200	200 mm (7.9")
260	260 mm (10.2")
305	305 mm (12.01")

N End Truck Type

T	Top-Running

D Application

S	Single Girder
D	Double Girder
BD	Bogie Double Girder

T Rail

040	40# Maximum
050	50# Maximum
105	60# - 105#

R Wheelbase

A	3' - 0"
B	3' - 6"
C	4' - 0"
D	4' - 6"
E	5' - 0"
F	5' - 6"
G	6' - 0"
H	6' - 3"
J	6' - 6"
K	7' - 0"
L	7' - 6"
M	8' - 0"
N	8' - 6"
P	9' - 0"
R	9' - 6"
T	10' - 0"

U Gage

C	48"
D	54"
E	60"
F	66"
G	72"
H	75"
J	78"
K	84"
L	90"
M	96"
N	102"
P	108"
R	114"
T	120"
U	126"
V	132"
W	138"

C Voltage

1 =	200/3/60
2 =	208/3/60
3 =	230/3/60
4 =	460/3/60
5 =	575/3/60
6 =	380/3/50

K HP

07	0.75 - (115 mm)
10	1.0 - (160 mm)
15	1.5 - (200 mm)
20	2.0 - (260 mm @ 100 fpm)
30	3.0 - (260 mm @ 150 fpm)
50	5.0 - (305 mm @ 200 fpm)

S Bumper

(Blank)	Default
1	R1
2	R2
3	R3
4	R4
5	R5

Note: Not all combinations are possible

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

SINGLE GIRDER END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog No.	Wheel Dia. mm (in.)	A Wheel base (ft. - in.)	Motor Hp each	Rail	Wt. (lbs.)	List Price
115TS040D*07	115 (4.5)	4-6	0.75	25 - 40#	448	**$7,966.00**
115TS040H*07		6-3			529	**$8,223.00**
115TS040L*07		7-6			588	**$8,400.00**
160TS040D*10	160 (6.3)	4-6	1		634	**$8,444.00**
160TS040H*10		6-3			748	**$8,736.00**
160TS040L*10		7-6			829	**$8,943.00**
160TS105D*10		4-6		60 - 105#	634	**$8,444.00**
160TS105H*10		6-3			748	**$8,736.00**
160TS105L*10		7-6			829	**$8,943.00**
200TS040H*15	200 (7.9)	6-3	1.5	25 - 40#	1076	**$11,167.00**
200TS040L*15		7-6			1183	**$11,501.00**
200TS105H*15		6-3		60 - 105#	1076	**$11,167.00**
200TS105L*15		7-6			1183	**$11,501.00**
260TS040H*20	260 (10.2)	6-3	2**	25 - 40#	1495	**$14,112.00**
260TS040L*20		7-6			1615	**$14,551.00**
260TS105H*20		6-3		60 - 105#	1495	**$14,112.00**
260TS105L*20		7-6			1615	**$14,551.00**
260TS040H*30		6-3	3	25 - 40#	1495	**$14,782.00**
260TS040L*30		7-6			1615	**$15,220.00**
260TS105H*30		6-3		60 - 105#	1495	**$14,782.00**
260TS105L*30		7-6			1615	**$15,220.00**
305TS050H*50	305 (12.01)	6-3	5	30-50#	2182	**$17,776.00**
305TS050L*50		7-6			2338	**$18,333.00**
305TS105H*50		6-3		55-105#	2182	**$17,776.00**
305TS105L*50		7-6			2338	**$18,333.00**

*** Power Supply**

• 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
• 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

**Adjustable to 100 fpm only. All other motors up to 3 HP are adjustable to 150 fpm.
5 HP motors are adjustable to 200 fpm.

Wheel Base Adders:

Wheel bases in 6" increments are available from a minimum of 3' - 0" to a maximum of 12' - 6" for 115 - 260 mm end trucks. 305 mm available up to 12' (144").

Add for wheel bases in-between cataloged wheel bases in 6" increments:

115 mm (4.5")..... add **$75** per 6"
160 mm (6.3")..... add **$85** per 6"
200 mm (7.9")..... add **$137** per 6"
260 mm (10.2")..... add **$181** per 6"
305 mm (12.01")..... add **$225** per 6"

Deduct for End Trucks without Connection Plates and Hand Holes:

15 mm (4.5")..... deduct **$219**
160 mm (6.3")..... deduct **$274**
200 mm (7.9")..... deduct **$348**
260 mm (10.2")..... deduct **$374**
305 mm (12.01")..... deduct **$399**

Must specify on order: "Without Connection Plates and Hand Holes."

ONE PAIR INCLUDING:

Bolt-on rail sweeps with rubber bumpers
One top and side-mounted girder connection plate
One pair of gear motors with DC disc brake

8:1 Max Span: Wheel Base Ratio	
For Span up to:	Use Wheel Base
36 ft.	4'6" = D
40 ft.	5'0" = E
44 ft.	5'6" = F
48 ft.	6'0"= G
50 ft.	6'3" = H
52 ft.	6'6" = J
56 ft.	7'0" = K
60 ft.	7'6" = L
64 ft.	8'0" = M
68 ft.	8'6" = N
72 ft.	9'0" = P
76 ft.	9'6" = R
80 ft.	10'0" = T
84 ft.	10'6" = U

All 60-105# wheels will fit the 100# ASCE with 2-3/4" rail head.

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

DOUBLE GIRDER END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog No.	Wheel Dia. mm (in.)	A Wheel base (ft. - in.)	Gage (ft.- in.)	Motor Hp each	Rail	Wt. (lbs.)	List Price
160TD040LD*10		7 - 6	4 - 6			858	**$10,352.00**
160TD040LE*10		7 - 6	5 - 0			858	**$10,352.00**
160TD040PD*10		9 - 0	4 - 6			954	**$10,602.00**
160TD040PE*10		9 - 0	5 - 0			954	**$10,602.00**
160TD040PF*10		9 - 0	5 - 6			954	**$10,602.00**
160TD040PG*10		9 - 0	6 - 0		25 - 40#	954	**$10,602.00**
160TD040PJ*10		9 - 0	6 - 6			954	**$10,602.00**
160TD040TD*10		10 - 0	4 - 6			1018	**$10,766.00**
160TD040TE*10		10 - 0	5 - 0			1018	**$10,766.00**
160TD040TF*10		10 - 0	5 - 6			1018	**$10,766.00**
160TD040TK*10		10 - 0	7 - 0			1018	**$10,766.00**
160TD040TL*10	160	10 - 0	7 - 6	1		1018	**$10,766.00**
160TD105LD*10	(6.3)	7 - 6	4 - 6			858	**$10,352.00**
160TD105LE*10		7 - 6	5 - 0			858	**$10,352.00**
160TD105PD*10		9 - 0	4 - 6			954	**$10,602.00**
160TD105PE*10		9 - 0	5 - 0			954	**$10,602.00**
160TD105PF*10		9 - 0	5 - 6			954	**$10,602.00**
160TD105PG*10		9 - 0	6 - 0		60 - 105#	954	**$10,602.00**
160TD105PJ*10		9 - 0	6 - 6			954	**$10,602.00**
160TD105TD*10		10 - 0	4 - 6			1018	**$10,766.00**
160TD105TE*10		10 - 0	5 - 0			1018	**$10,766.00**
160TD105TF*10		10 - 0	5 - 6			1018	**$10,766.00**
160TD105TK*10		10 - 0	7 - 0			1018	**$10,766.00**
160TD105TL*10		10 - 0	7 - 6			1018	**$10,766.00**
200TD040LE*15		7 - 6	5 - 0			1220	**$13,556.00**
200TD040PE*15		9 - 0	5 - 0			1334	**$13,957.00**
200TD040PF*15		9 - 0	5 - 6			1334	**$13,957.00**
200TD040PG*15		9 - 0	6 - 0			1334	**$13,957.00**
200TD040PJ*15		9 - 0	6 - 6		25 - 40#	1334	**$13,957.00**
200TD040TE*15		10 - 0	5 - 0			1440	**$14,230.00**
200TD040TF*15		10 - 0	5 - 6			1440	**$14,230.00**
200TD040TK*15		10 - 0	7 - 0			1440	**$14,230.00**
200TD040TL*15	200	10 - 0	7 - 6	1.5		1440	**$14,230.00**
200TD105LE*15	(7.9)	7 - 6	5 - 0			1220	**$13,556.00**
200TD105PE*15		9 - 0	5 - 0			1334	**$13,957.00**
200TD105PF*15		9 - 0	5 - 6			1334	**$13,957.00**
200TD105PG*15		9 - 0	6 - 0			1334	**$13,957.00**
200TD105PJ*15		9 - 0	6 - 6		60 - 105#	1334	**$13,957.00**
200TD105TE*15		10 - 0	5 - 0			1440	**$14,230.00**
200TD105TF*15		10 - 0	5 - 6			1440	**$14,230.00**
200TD105TK*15		10 - 0	7 - 0			1440	**$14,230.00**
200TD105TL*15		10 - 0	7 - 6			1440	**$14,230.00**

ONE PAIR INCLUDING:

Bolt-on rail sweeps with rubber bumpers
Two top and side-mounted girder connection plates
One pair of gear motors with DC disc brake

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

Wheel Base Adders:

Wheel bases in 6" increments are available from a minimum of 4' - 6" to a maximum of 12' - 6" for 160 - 260 mm end trucks. 305 mm available up to 12' (144").

Add for wheel bases in-between cataloged wheel bases in 6" increments:

160 mm (6.3")..... add **$85** per 6"

200 mm (7.9")..... add **$137** per 6"

Deduct for End Trucks without Connection Plates and Hand Holes:

160 mm (6.3")..... deduct **$542**

200 mm (7.9")..... deduct **$697**

Must specify on order: "Without Connection Plates and Hand Holes."

All 60-105# wheels will fit the 100# ASCE with 2-3/4" rail head.

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

DOUBLE GIRDER END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog No.	Wheel Dia. mm (in.)	A Wheel base (ft. - in.)	Gage (ft. - in.)	Motor Hp each	Rail	Wt. (lbs.)	List Price
260TD040LE*20	260 (10.2)	7 - 6	5 - 0	2**	25 - 40#	1813	**$17,143.00**
260TD040PE*20		9 - 0	5 - 0			1828	**$17,672.00**
260TD040PF*20		9 - 0	5 - 6			1828	**$17,672.00**
260TD040PG*20		9 - 0	6 - 0			1828	**$17,672.00**
260TD040PJ*20		9 - 0	6 - 6			1828	**$17,672.00**
260TD040TE*20		10 - 0	5 - 0			1924	**$18,023.00**
260TD040TF*20		10 - 0	5 - 6			1924	**$18,023.00**
260TD040TK*20		10 - 0	7 - 0			1924	**$18,023.00**
260TD040TL*20		10 - 0	7 - 6			1924	**$18,023.00**
260TD105LE*20		7 - 6	5 - 0		60 - 105#	1813	**$17,143.00**
260TD105PE*20		9 - 0	5 - 0			1828	**$17,672.00**
260TD105PF*20		9 - 0	5 - 6			1828	**$17,672.00**
260TD105PG*20		9 - 0	6 - 0			1828	**$17,672.00**
260TD105PJ*20		9 - 0	6 - 6			1828	**$17,672.00**
260TD105TE*20		10 - 0	5 - 0			1924	**$18,023.00**
260TD105TF*20		10 - 0	5 - 6			1924	**$18,023.00**
260TD105TK*20		10 - 0	7 - 0			1924	**$18,023.00**
260TD105TL*20		10 - 0	7 - 6			1924	**$18,023.00**
260TD040LE*30		7 - 6	5 - 0	3	25 - 40#	1813	**$17,813.00**
260TD040PE*30		9 - 0	5 - 0			1842	**$18,342.00**
260TD040PF*30		9 - 0	5 - 6			1842	**$18,342.00**
260TD040PG*30		9 - 0	6 - 0			1842	**$18,342.00**
260TD040PJ*30		9 - 0	6 - 6			1842	**$18,342.00**
260TD040TE*30		10 - 0	5 - 0			1938	**$18,694.00**
260TD040TF*30		10 - 0	5 - 6			1938	**$18,694.00**
260TD040TK*30		10 - 0	7 - 0			1938	**$18,694.00**
260TD040TL*30		10 - 0	7 - 6			1938	**$18,694.00**
260TD105LE*30		7 - 6	5 - 0		60 - 105#	1813	**$17,813.00**
260TD105PE*30		9 - 0	5 - 0			1842	**$18,342.00**
260TD105PF*30		9 - 0	5 - 6			1842	**$18,342.00**
260TD105PG*30		9 - 0	6 - 0			1842	**$18,342.00**
260TD105PJ*30		9 - 0	6 - 6			1842	**$18,342.00**
260TD105TE*30		10 - 0	5 - 0			1938	**$18,694.00**
260TD105TF*30		10 - 0	5 - 6			1938	**$18,694.00**
260TD105TK*30		10 - 0	7 - 0			1938	**$18,694.00**
260TD105TL*30		10 - 0	7 - 6			1938	**$18,694.00**

Truck & Drive Catalog No.	Wheel Dia. mm (in.)	A Wheel base (ft. - in.)	Gage (ft. - in.)	Motor Hp each	Rail	Wt. (lbs.)	List Price
305TD050LC*50	305 (12.01)	7 - 6	48	5	30-50#	2453	**$19,324.00**
305TD050LD*50		7 - 6	54			2453	**$19,324.00**
305TD050PC*50		9 - 0	48			2639	**$19,993.00**
305TD050PD*50		9 - 0	54			2639	**$19,993.00**
305TD050PE*50		9 - 0	60			2639	**$19,993.00**
305TD050PF*50		9 - 0	66			2639	**$19,993.00**
305TD050PG*50		9 - 0	72			2639	**$19,993.00**
305TD050TC*50		10 - 0	48			2764	**$20,441.00**
305TD050TD*50		10 - 0	54			2764	**$20,441.00**
305TD050TE*50		10 - 0	60			2764	**$20,441.00**
305TD050TF*50		10 - 0	66			2764	**$20,441.00**
305TD050TG*50		10 - 0	72			2764	**$20,441.00**
305TD050TJ*50		10 - 0	78			2764	**$20,441.00**
305TD050TK*50		10 - 0	84			2764	**$20,441.00**
305TD105LC*50	305 (12.01)	7 - 6	48	5	55-105#	2453	**$19,324.00**
305TD105LD*50		7 - 6	54			2453	**$19,324.00**
305TD105PC*50		9 - 0	48			2639	**$19,993.00**
305TD105PD*50		9 - 0	54			2639	**$19,993.00**
305TD105PE*50		9 - 0	60			2639	**$19,993.00**
305TD105PF*50		9 - 0	66			2639	**$19,993.00**
305TD105PG*50		9 - 0	72			2639	**$19,993.00**
305TD105TC*50		10 - 0	48			2764	**$20,441.00**
305TD105TD*50		10 - 0	54			2764	**$20,441.00**
305TD105TE*50		10 - 0	60			2764	**$20,441.00**
305TD105TF*50		10 - 0	66			2764	**$20,441.00**
305TD105TG*50		10 - 0	72			2764	**$20,441.00**
305TD105TJ*50		10 - 0	78			2764	**$20,441.00**
305TD105TK*50		10 - 0	84			2764	**$20,441.00**

ONE PAIR INCLUDING:

Bolt-on rail sweeps with rubber bumpers
Two top and side-mounted girder connection plates
One pair of gear motors with DC disc brake

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

**Adjustable to 100 fpm only. All other motors up to 3 HP are adjustable to 150 fpm. 5 HP motors are adjustable to 200 fpm.

Wheel Base Adders:

Wheel bases in 6" increments are available from a minimum of 4' - 6" to a maximum of 12' - 6" for 160 - 260 mm. 305 mm available up to 12' (144").

Add for wheel bases in-between cataloged wheel bases in 6" increments:

260 mm (10.2").....add **$181** per 6"

305 mm (12.01").....add **$225** per 6"

Deduct for End Trucks without Connection Plates and Hand Holes:

260 mm (10.2").....deduct **$715**

305 mm (12.01").....deduct **$794**

Must specify on order: "Without Connection Plates and Hand Holes."

All 60-105# wheels will fit the 100# ASCE with 2-3/4" rail head.

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

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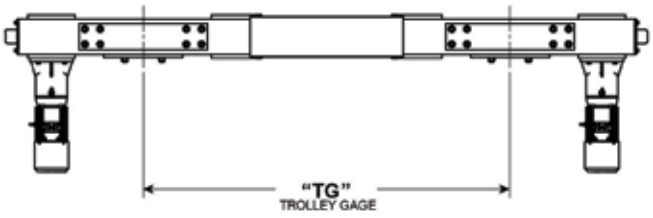
All prices are in US Funds.

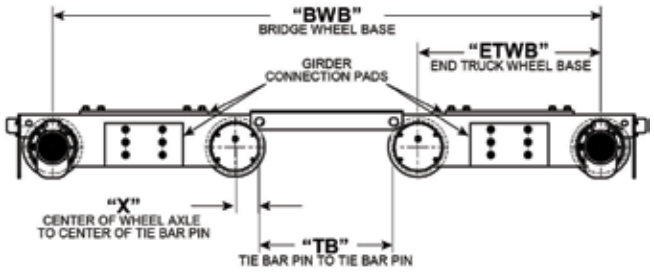
BOGIE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

TOP VIEW



SIDE VIEW



DOUBLE GIRDER BOGIE END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog Number	Wheel Dia. (mm)	Motor Hp each	Flange Dia. (mm)	X (in.)	BWB (ft.-in.)	TG (in.)	ETWB (ft.-in.)	TB (in.)	Bogie		Optional Tie Bar	
									List Price	Weight (lbs.)	List Price	Weight (lbs.)
160TBD+++AE*10	160	1	195	2.85	8 - 0	60	3 - 0	18.3	**$16,391.00**	1074	**$1,934.00**	27
160TBD+++AF*10				2.85	8 - 6	66	3 - 0	24.3	**$16,391.00**	1074	**$2,037.00**	35
160TBD+++BF*10				2.85	9 - 6	66	3 - 6	18.3	**$16,554.00**	1138	**$1,934.00**	27
160TBD+++AG*10				2.85	9 - 6	72	3 - 0	30.3	**$16,391.00**	1074	**$2,143.00**	44
160TBD+++BG*10				2.85	9 - 6	72	3 - 6	24.3	**$16,554.00**	1138	**$2,037.00**	35
160TBD+++AJ*10				2.85	9 - 6	78	3 - 0	36.3	**$16,391.00**	1074	**$2,249.00**	53
160TBD+++CG*10				2.85	10- 0	72	4 - 0	18.3	**$16,720.00**	1204	**$1,934.00**	27
160TBD+++BJ*10				2.85	10- 0	78	3 - 6	30.3	**$16,554.00**	1138	**$2,143.00**	44
160TBD+++AK*10				2.85	10- 0	84	3 - 0	42.3	**$16,391.00**	1074	**$2,352.00**	61
160TBD+++CJ*10				2.85	10 - 6	78	4 - 0	24.3	**$16,720.00**	1074	**$2,037.00**	35
160TBD+++BK*10				2.85	10 - 6	84	3 - 6	36.3	**$16,554.00**	1074	**$2,249.00**	53
160TBD+++AL*10				2.85	10 - 6	90	3 - 0	48.3	**$16,391.00**	1074	**$2,460.00**	70
160TBD+++DJ*10				2.85	11- 0	78	4 - 6	18.3	**$16,884.00**	1268	**$1,934.00**	27
160TBD+++CK*10				2.85	11- 0	84	4 - 0	30.3	**$16,720.00**	1204	**$2,143.00**	44
160TBD+++BL*10				2.85	11- 0	90	3 - 6	42.3	**$16,554.00**	1138	**$2,352.00**	61
160TBD+++AM*10				2.85	11- 0	96	3 - 0	54.3	**$16,391.00**	1074	**$2,562.00**	79
160TBD+++DK*10				2.85	11 - 6	84	4 - 6	24.3	**$16,884.00**	1268	**$2,037.00**	35
160TBD+++CL*10				2.85	11 - 6	90	4 - 0	36.3	**$16,720.00**	1204	**$2,249.00**	53
160TBD+++BM*10				2.85	11 - 6	96	3 - 6	48.3	**$16,554.00**	1138	**$2,460.00**	70
160TBD+++AN*10				2.85	11 - 6	102	3 - 0	60.3	**$16,391.00**	1074	**$2,668.00**	87
160TBD+++DL*10				2.85	12 - 0	90	4 - 6	30.3	**$16,884.00**	1268	**$2,143.00**	44
160TBD+++CM*10				2.85	12 - 0	96	4 - 0	42.3	**$16,720.00**	1204	**$2,352.00**	61
160TBD+++BN*10				2.85	12 - 0	102	3 - 6	54.3	**$16,554.00**	1138	**$2,562.00**	79
160TBD+++AP*10				2.85	12 - 0	108	3 - 0	66.3	**$16,391.00**	1074	**$2,772.00**	96
160TBD+++BM*10				2.85	12 - 6	96	4 - 6	36.3	**$16,884.00**	1268	**$2,249.00**	53
160TBD+++CN*10				2.85	12 - 6	102	4 - 0	48.3	**$16,720.00**	1204	**$2,460.00**	70
160TBD+++BP*10				2.85	12 - 6	108	3 - 6	60.3	**$16,554.00**	1138	**$2,668.00**	87
160TBD+++AR*10				2.85	12 - 6	114	3 - 0	72.3	**$16,391.00**	1074	**$2,877.00**	105
160TBD+++DN*10				2.85	13 - 0	102	4 - 6	42.3	**$16,884.00**	1268	**$2,352.00**	61
160TBD+++CP*10				2.85	13 - 0	108	4 - 0	54.3	**$16,720.00**	1204	**$2,562.00**	79
160TBD+++BR*10				2.85	13 - 0	114	3 - 6	66.3	**$16,554.00**	1138	**$2,772.00**	96
160TBD+++AT*10				2.85	13 - 0	120	3 - 0	78.3	**$16,391.00**	1074	**$2,981.00**	114
160TBD+++DP*10				2.85	13 - 6	108	4 - 6	48.3	**$16,884.00**	1268	**$2,460.00**	70
160TBD+++CR*10				2.85	13 - 6	114	4 - 0	60.3	**$16,720.00**	1204	**$2,668.00**	87
160TBD+++BT*10				2.85	13 - 6	120	3 - 6	72.3	**$16,554.00**	1138	**$2,877.00**	105
160TBD+++AU*10				2.85	13 - 6	126	3 - 0	84.3	**$16,391.00**	1074	**$3,085.00**	122
160TBD+++DR*10				2.85	14 - 0	114	4 - 6	54.3	**$16,884.00**	1268	**$2,562.00**	79
160TBD+++CT*10				2.85	14 - 0	120	4 - 0	66.3	**$16,720.00**	1204	**$2,772.00**	96
160TBD+++BU*10				2.85	14 - 0	126	3 - 6	78.3	**$16,554.00**	1138	**$2,981.00**	114
160TBD+++AV*10				2.85	14 - 0	132	3 - 0	90.3	**$16,391.00**	1074	**$3,191.00**	131
160TBD+++DT*10				2.85	14 - 6	120	4 - 6	60.3	**$16,884.00**	1268	**$2,668.00**	87
160TBD+++CU*10				2.85	14 - 6	126	4 - 0	72.3	**$16,720.00**	1204	**$2,877.00**	105
160TBD+++BV*10				2.85	14 - 6	132	3 - 6	84.3	**$16,554.00**	1138	**$3,085.00**	122
160TBD+++AX*10				2.85	14 - 6	138	3 - 0	96.3	**$16,391.00**	1074	**$3,297.00**	140

+++ Rail Size
040 = 25# - 40# Rail
105 = 60# - 105# Rail

*** Power Supply**
1 = 200/3/60, **2** = 208/3/60, **3** = 230/3/60, **4** = 460/3/60, **5** = 575/3/60, **6** = 380/3/50

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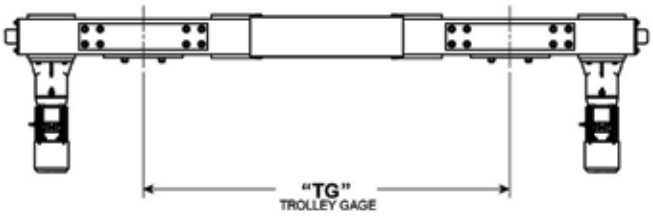
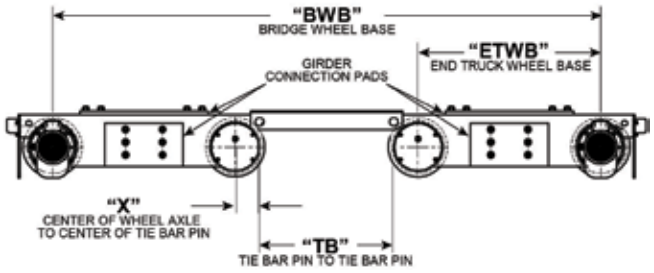
BOGIE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

TOP VIEW



SIDE VIEW



DOUBLE GIRDER BOGIE END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog Number	Wheel Dia. (mm)	Motor Hp each	Flange Dia. (mm)	X (in.)	BWB (ft.-in.)	TG (in.)	ETWB (ft.-in.)	TB (in.)	Bogie		Optional Tie Bar	
									List Price	Weight (lbs.)	List Price	Weight (lbs.)
200TBD+++AE*15				3.25	8 - 0	60	3 - 0	17.5	**$20,585.00**	1596	**$1,919.00**	32
200TBD+++AF*15				3.25	8 - 6	66	3 - 0	23.5	**$20,585.00**	1596	**$2,024.00**	43
200TBD+++AG*15				3.25	9 - 6	72	3 - 0	29.5	**$20,585.00**	1596	**$2,127.00**	55
200TBD+++BG*15				3.25	9 - 6	72	3 - 6	23.5	**$20,855.00**	1682	**$2,024.00**	43
200TBD+++AJ*15				3.25	9 - 6	78	3 - 0	35.5	**$20,585.00**	1596	**$2,231.00**	66
200TBD+++BJ*15				3.25	10- 0	78	3 - 6	29.5	**$20,855.00**	1682	**$2,127.00**	55
200TBD+++AK*15				3.25	10- 0	84	3 - 0	41.5	**$20,585.00**	1596	**$2,340.00**	77
200TBD+++CJ*15				3.25	10 - 6	78	4 - 0	23.5	**$21,123.00**	1766	**$2,024.00**	43
200TBD+++BK*15				3.25	10 - 6	84	3 - 6	35.5	**$20,855.00**	1682	**$2,231.00**	66
200TBD+++AL*15				3.25	10 - 6	90	3 - 0	47.5	**$20,585.00**	1596	**$2,443.00**	88
200TBD+++CK*15				3.25	11- 0	84	4 - 0	29.5	**$21,123.00**	1766	**$2,127.00**	55
200TBD+++BL*15				3.25	11- 0	90	3 - 6	41.5	**$20,855.00**	1682	**$2,340.00**	77
200TBD+++AM*15				3.25	11- 0	96	3 - 0	53.5	**$20,585.00**	1596	**$2,547.00**	99
200TBD+++DK*15				3.25	11 - 6	84	4 - 6	23.5	**$21,391.00**	1852	**$2,024.00**	43
200TBD+++CL*15				3.25	11 - 6	90	4 - 0	35.5	**$21,123.00**	1766	**$2,231.00**	66
200TBD+++BM*15				3.25	11 - 6	96	3 - 6	47.5	**$20,855.00**	1682	**$2,443.00**	88
200TBD+++AN*15				3.25	11 - 6	102	3 - 0	59.5	**$20,585.00**	1596	**$2,652.00**	110
200TBD+++DL*15				3.25	12 - 0	90	4 - 6	29.5	**$21,391.00**	1852	**$2,127.00**	55
200TBD+++CM*15				3.25	12 - 0	96	4 - 0	41.5	**$21,123.00**	1766	**$2,340.00**	77
200TBD+++BN*15	200	1.5	240	3.25	12 - 0	102	3 - 6	53.5	**$20,855.00**	1682	**$2,547.00**	99
200TBD+++AP*15				3.25	12 - 0	108	3 - 0	65.5	**$20,585.00**	1596	**$2,756.00**	121
200TBD+++DM*15				3.25	12 - 6	96	4 - 6	35.5	**$21,391.00**	1852	**$2,231.00**	66
200TBD+++CN*15				3.25	12 - 6	102	4 - 0	47.5	**$21,123.00**	1766	**$2,443.00**	88
200TBD+++BP*15				3.25	12 - 6	108	3 - 6	59.5	**$20,855.00**	1682	**$2,652.00**	110
200TBD+++AR*15				3.25	12 - 6	114	3 - 0	71.5	**$20,585.00**	1596	**$2,862.00**	132
200TBD+++DN*15				3.25	13 - 0	102	4 - 6	41.5	**$21,391.00**	1852	**$2,340.00**	77
200TBD+++CP*15				3.25	13 - 0	108	4 - 0	53.5	**$21,123.00**	1766	**$2,547.00**	99
200TBD+++DP*15				3.25	13 - 6	108	4 - 6	47.5	**$21,391.00**	1852	**$2,443.00**	88
200TBD+++CR*15				3.25	13 - 6	114	4 - 0	59.5	**$21,123.00**	1766	**$2,652.00**	110
200TBD+++BT*15				3.25	13 - 6	120	3 - 6	71.5	**$20,855.00**	1682	**$2,862.00**	132
200TBD+++AU*15				3.25	13 - 6	126	3 - 0	83.5	**$20,585.00**	1596	**$3,071.00**	154
200TBD+++DR*15				3.25	14 - 0	114	4 - 6	53.5	**$21,391.00**	1852	**$2,547.00**	99
200TBD+++CT*15				3.25	14 - 0	120	4 - 0	65.5	**$21,123.00**	1766	**$2,756.00**	121
200TBD+++BU*15				3.25	14 - 0	126	3 - 6	77.5	**$20,855.00**	1682	**$2,966.00**	143
200TBD+++AV*15				3.25	14 - 0	132	3 - 0	89.5	**$20,585.00**	1596	**$3,176.00**	166
200TBD+++DT*15				3.25	14 - 6	120	4 - 6	59.5	**$21,391.00**	1852	**$2,652.00**	110
200TBD+++DU*15				3.25	14 - 6	126	4 - 0	71.5	**$21,123.00**	1766	**$2,862.00**	132
200TBD+++BV*15				3.25	14 - 6	132	3 - 6	83.5	**$20,855.00**	1682	**$3,071.00**	154
200TBD+++AW*15				3.25	14 - 6	138	3 - 0	95.5	**$20,585.00**	1596	**$3,281.00**	177

+++ Rail Size
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*** Power Supply**
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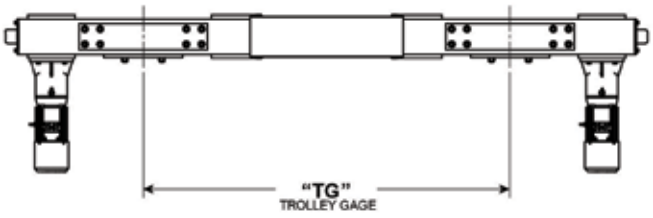
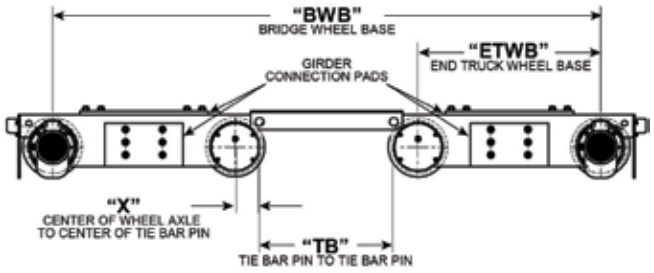
BOGIE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

TOP VIEW



SIDE VIEW



DOUBLE GIRDER BOGIE END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog Number	Wheel Dia. (mm)	Motor Hp each	Flange Dia. (mm)	X (in.)	BWB (ft-.in.)	TG (in.)	ETWB (ft.-in.)	TB (in.)	Bogie		Optional Tie Bar	
									List Price	Weight (lbs.)	List Price	Weight (lbs.)
260TBD+++BJ*20	260	2	310	4.5	10- 0	78	3 - 6	27	**$26,288.00**	2456	**$2,084.00**	50
260TBD+++BK*20				4.5	10 - 6	84	3 - 6	33	**$26,288.00**	2456	**$2,190.00**	61
260TBD+++CK*20				4.5	11- 0	84	4 - 0	27	**$26,641.00**	2550	**$2,084.00**	50
260TBD+++BL*20				4.5	11- 0	90	3 - 6	39	**$26,288.00**	2456	**$2,295.00**	72
260TBD+++CL*20				4.5	11 - 6	90	4 - 0	33	**$26,641.00**	2550	**$2,190.00**	61
260TBD+++BM*20				4.5	11 - 6	96	3 - 6	45	**$26,288.00**	2456	**$2,401.00**	83
260TBD+++BL*20				4.5	12 - 0	90	4 - 6	27	**$26,991.00**	2646	**$2,084.00**	50
260TBD+++CM*20				4.5	12 - 0	96	4 - 0	39	**$26,641.00**	2550	**$2,295.00**	72
260TBD+++BN*20				4.5	12 - 0	102	3 - 6	51	**$26,288.00**	2456	**$2,504.00**	94
260TBD+++DM*20				4.5	12 - 6	96	4 - 6	33	**$26,991.00**	2646	**$2,190.00**	61
260TBD+++CN*20				4.5	12 - 6	102	4 - 0	45	**$26,641.00**	2550	**$2,401.00**	83
260TBD+++BP*20				4.5	12 - 6	108	3 - 6	57	**$26,288.00**	2456	**$2,608.00**	105
260TBD+++DN*20				4.5	13 - 0	102	4 - 6	39	**$26,991.00**	2646	**$2,295.00**	72
260TBD+++CP*20				4.5	13 - 0	108	4 - 0	51	**$26,641.00**	2550	**$2,504.00**	94
260TBD+++BR*20				4.5	13 - 0	114	3 - 6	63	**$26,288.00**	2456	**$2,714.00**	117
260TBD+++DP*20				4.5	13 - 6	108	4 - 6	45	**$26,991.00**	2646	**$2,401.00**	83
260TBD+++CR*20				4.5	13 - 6	114	4 - 0	57	**$26,641.00**	2550	**$2,608.00**	105
260TBD+++BT*20				4.5	13 - 6	120	3 - 6	69	**$26,288.00**	2456	**$2,819.00**	128
260TBD+++DR*20				4.5	14 - 0	114	4 - 6	51	**$26,991.00**	2646	**$2,504.00**	94
260TBD+++CT*20				4.5	14 - 0	120	4 - 0	63	**$26,641.00**	2550	**$2,714.00**	117
260TBD+++BU*20				4.5	14 - 0	126	3 - 6	75	**$26,288.00**	2456	**$2,922.00**	139
260TBD+++DT*20				4.5	14 - 6	120	4 - 6	57	**$26,991.00**	2646	**$2,608.00**	105
260TBD+++CU*20				4.5	14 - 6	126	4 - 0	69	**$26,641.00**	2550	**$2,819.00**	128
260TBD+++BV*20				4.5	14 - 6	132	3 - 6	81	**$26,288.00**	2456	**$3,028.00**	150
260TBD+++BJ*30	260	3	310	4.5	10- 0	78	3 - 6	27	**$27,631.00**	2472	**$2,084.00**	50
260TBD+++BK*30				4.5	10 - 6	84	3 - 6	33	**$27,631.00**	2472	**$2,190.00**	61
260TBD+++CK*30				4.5	11- 0	84	4 - 0	27	**$27,982.00**	2566	**$2,084.00**	50
260TBD+++BL*30				4.5	11- 0	90	3 - 6	39	**$27,631.00**	2472	**$2,295.00**	72
260TBD+++CL*30				4.5	11 - 6	90	4 - 0	33	**$27,982.00**	2566	**$2,190.00**	61
260TBD+++BM*30				4.5	11 - 6	96	3 - 6	45	**$27,631.00**	2472	**$2,401.00**	83
260TBD+++BL*30				4.5	12 - 0	90	4 - 6	27	**$28,333.00**	2660	**$2,084.00**	50
260TBD+++CM*30				4.5	12 - 0	96	4 - 0	39	**$27,982.00**	2566	**$2,295.00**	72
260TBD+++BN*30				4.5	12 - 0	102	3 - 6	51	**$27,631.00**	2472	**$2,504.00**	94
260TBD+++DM*30				4.5	12 - 6	96	4 - 6	33	**$28,333.00**	2660	**$2,190.00**	61
260TBD+++CN*30				4.5	12 - 6	102	4 - 0	45	**$27,982.00**	2566	**$2,401.00**	83
260TBD+++BP*30				4.5	12 - 6	108	3 - 6	57	**$27,631.00**	2472	**$2,608.00**	105
260TBD+++DN*30				4.5	13 - 0	102	4 - 6	39	**$28,333.00**	2660	**$2,295.00**	72
260TBD+++CP*30				4.5	13 - 0	108	4 - 0	51	**$27,982.00**	2566	**$2,504.00**	94
260TBD+++BR*30				4.5	13 - 0	114	3 - 6	63	**$27,631.00**	2472	**$2,714.00**	117
260TBD+++DP*30				4.5	13 - 6	108	4 - 6	45	**$28,333.00**	2660	**$2,401.00**	83
260TBD+++CR*30				4.5	13 - 6	114	4 - 0	57	**$27,982.00**	2566	**$2,608.00**	105
260TBD+++BT*30				4.5	13 - 6	120	3 - 6	69	**$27,631.00**	2472	**$2,819.00**	128
260TBD+++DR*30				4.5	14 - 0	114	4 - 6	51	**$28,333.00**	2660	**$2,504.00**	94
260TBD+++CT*30				4.5	14 - 0	120	4 - 0	63	**$27,982.00**	2566	**$2,714.00**	117
260TBD+++BU*30				4.5	14 - 0	126	3 - 6	75	**$27,631.00**	2472	**$2,922.00**	139
260TBD+++DT*30				4.5	14 - 6	120	4 - 6	57	**$28,333.00**	2660	**$2,608.00**	105
260TBD+++CU*30				4.5	14 - 6	126	4 - 0	69	**$27,982.00**	2566	**$2,819.00**	128
260TBD+++BV*30				4.5	14 - 6	132	3 - 6	81	**$27,631.00**	2472	**$3,028.00**	150

+++ Rail Size
040 = 25# - 40# Rail
105 = 60# - 105# Rail

*** Power Supply**
1 = 200/3/60, **2** = 208/3/60, **3** = 230/3/60, **4** = 460/3/60, **5** = 575/3/60, **6** = 380/3/50

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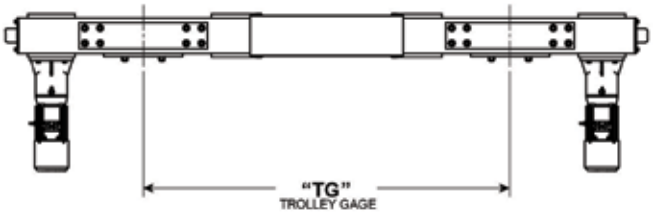
Prices subject to change without notice.
All prices are in US Funds.

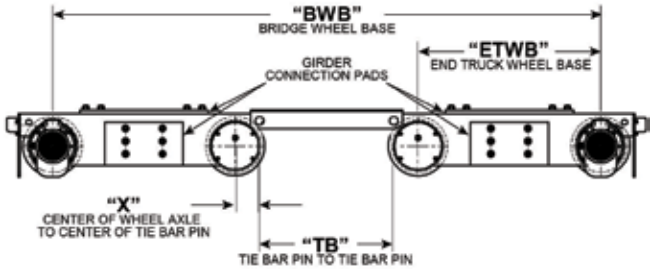
BOGIE COMPONENTS & OPTIONS

INTEGRAL AXLE TOP-RUNNING INDIVIDUAL COMPONENTS

TOP VIEW



SIDE VIEW



DOUBLE GIRDER BOGIE END TRUCKS WITH GEAR MOTORS

Truck & Drive Catalog Number	Wheel Dia. (mm)	Motor Hp each	Flange Dia. (mm)	X (in.)	BWB (ft.-in.)	TG (in.)	ETWB (ft.-in.)	TB (in.)	Bogie		Optional Tie Bar	
									List Price	Weight (lbs.)	List Price	Weight (lbs.)
305TBD+++BJ*50	305	5	345	5.5	10 - 0	78	3 - 6	25	**$33,533.00**	3684	**$2,050.00**	46
305TBD+++BK*50				5.5	10 - 6	84	3 - 6	31	**$33,533.00**	3684	**$2,156.00**	57
305TBD+++CK*50				5.5	11- 0	84	4 - 0	25	**$33,981.00**	3684	**$2,050.00**	46
305TBD+++BL*50				5.5	11- 0	90	3 - 6	37	**$33,533.00**	3684	**$2,260.00**	68
305TBD+++CL*50				5.5	11 - 6	90	4 - 0	31	**$33,981.00**	3808	**$2,156.00**	57
305TBD+++BM*50				5.5	11 - 6	96	3 - 6	43	**$33,533.00**	3684	**$2,363.00**	80
305TBD+++CL*50				5.5	12 - 0	90	4 - 0	25	**$33,981.00**	3808	**$2,050.00**	46
305TBD+++CM*50				5.5	12 - 0	96	4 - 0	37	**$33,981.00**	3808	**$2,260.00**	68
305TBD+++BN*50				5.5	12 - 0	102	3 - 6	49	**$33,533.00**	3684	**$2,469.00**	91
305TBD+++DM*50				5.5	12 - 6	96	4 - 6	31	**$34,429.00**	3932	**$2,156.00**	57
305TBD+++CN*50				5.5	12 - 6	102	4 - 0	43	**$33,981.00**	3808	**$2,363.00**	80
305TBD+++BP*50				5.5	12 - 6	108	3 - 6	55	**$33,533.00**	3684	**$2,572.00**	102
305TBD+++DN*50				5.5	13 - 0	102	4 - 6	37	**$34,429.00**	3932	**$2,260.00**	68
305TBD+++CP*50				5.5	13 - 0	108	4 - 0	49	**$33,981.00**	3808	**$2,469.00**	91
305TBD+++BR*50				5.5	13 - 0	114	3 - 6	61	**$33,533.00**	3684	**$2,679.00**	113
305TBD+++DP*50				5.5	13 - 6	108	4 - 6	43	**$34,429.00**	3932	**$2,363.00**	80
305TBD+++CR*50				5.5	13 - 6	114	4 - 0	55	**$33,981.00**	3808	**$2,572.00**	102
305TBD+++BT*50				5.5	13 - 6	120	3 - 6	67	**$33,533.00**	3684	**$2,784.00**	124
305TBD+++DR*50				5.5	14 - 0	114	4 - 6	49	**$34,429.00**	3932	**$2,469.00**	91
305TBD+++CT*50				5.5	14 - 0	120	4 - 0	61	**$33,981.00**	3808	**$2,679.00**	113
305TBD+++BU*50				5.5	14 - 0	126	3 - 6	73	**$33,533.00**	3684	**$2,888.00**	135
305TBD+++DT*50				5.5	14 - 6	120	4 - 6	55	**$34,429.00**	3932	**$2,572.00**	102
305TBD+++CU*50				5.5	14 - 6	126	4 - 0	67	**$33,981.00**	3808	**$2,784.00**	124
305TBD+++BV*50				5.5	14 - 6	132	3 - 6	79	**$33,533.00**	3684	**$2,993.00**	146

+++ Rail Size
050 = 30# - 50# Rail
105 = 60# - 105# Rail

*** Power Supply**
1 = 200/3/60, **2** = 208/3/60, **3** = 230/3/60, **4** = 460/3/60, **5** = 575/3/60, **6** = 380/3/50

Deduct for End Trucks without Connection Plates and Hand Holes on Bogie Trucks:

160 mm (6.3")..... deduct **$433**
200 mm (7.9")..... deduct **$556**
260 mm (10.2")..... deduct **$596**
305 mm (12.01")..... deduct **$634**

Must specify on order: "Without Connection Plates and Hand Holes."

All prices are in US Funds.

BRIDGE CONTROL PANELS - PLUG & PLAY

VARIABLE FREQUENCY BRIDGE CONTROL PANELS

Features:	1-3 H.P. Units	5-10 H.P. Units
† Magnetek Drive Type	IMPULSE·G+ Mini	IMPULSE·G+ Mini
Control only CMAA Service Class	C	5 h.p. = C, 7.5 & 10 h.p.= D
Standard NEMA 4/12 Panel	20 W x 16 H x 8.5 D*	24 W x 20 H x 10.5 D
Control Points	2-step, 3-step & 5-step or 2-step & 3-step infinitely variable	2-step, 3-step & 5-step or 2-step & 3-step infinitely variable
Mainline Contactor	30 Amp	60 Amp*
Control Transformer	115V / 75VA	115V / 75VA
Disconnect with Panel Mounted Handle	30 Amp	60 Amp
External Dynamic Braking Resistor	Yes	Yes
Fuses	Yes	Yes
Hinge Point	Horizontal at bottom of panel	Horizontal at bottom of panel

STANDARD (NON-PLUG & PLAY) NEMA 4/12 WITH BUILT-IN DISCONNECT

For Bridge Traverse Motions
Speed range up to 20:1 (in F.P.M.)

DC rectifier built into the gear motor - not a separate item.
Coils with Surge Suppression and Terminal Board with Extra Terminals for Customer connections are included.

Max. Total H.P.	Cross Conductors	Power Supply	** Max. Full Load Amps	Catalog Number 230 V	Catalog Number 200 V	List Price	*** Wt. (lbs.)	Power Supply	** Max. Full Load Amps	Catalog Number 460 V	List Price	*** Wt. (lbs.)
2	30 amp	200 to 230 Volts 50/60 Hz	8	TBD		**$4,285.00**	80	460 Volts 50/60 Hz	3.4	TBD	**$4,306.00**	80
3			11			**$4,411.00**			4.8		**$4,616.00**	
5			17.5			**$5,638.00**	105		9		**$5,847.00**	105
7-1/2			25			**$7,706.00**			15		**$8,124.00**	
10			31			**$8,186.00**			17		**$8,610.00**	

PLUG & PLAY NEMA 4/12 WITH BUILT-IN DISCONNECT

For Bridge Traverse Motions
Speed range up to 20:1 (in F.P.M.)

DC rectifier built into the gear motor - not a separate item.

Coils with Surge Suppression and Terminal Board with Extra Terminals for Customer connections are included.

Max. Total H.P.	Cross Conductors	Power Supply	** Max. Full Load Amps	Catalog Number 230 V	Catalog Number 200 V	List Price	*** Wt. (lbs.)	Power Supply	** Max. Full Load Amps	Catalog Number 460 V	List Price	*** Wt. (lbs.)
2	30 amp	200 to 230 Volts 50/60 Hz	8	TBD		**$4,285.00**	80	460 Volts 50/60 Hz	3.4	TBD	**$4,306.00**	80
3			11			**$4,411.00**			4.8		**$4,616.00**	
5			17.5			**$5,638.00**	105		9		**$5,847.00**	105
7-1/2			25			**$7,706.00**			15		**$8,124.00**	
10			31			**$8,186.00**			17		**$8,610.00**	

† Note: Control Panels are shipped from the factory with the VFD speed set at 100 fpm. Instructions for setting other speeds are listed inside the Control Panel cover. Speed setting must not exceed the speed that was requested at time of order. For more information, contact CMCO Customer Service.

* 3 hp panel for 460 volts is 24 W X 20 H X 10.5 D. *Adding a 60 amp disconnect increases enclosure size to that of the 5-10 hp panel.

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded, especially on 230 volt applications.

*** Add 15% for approximate shipping weight.

**** 7.5 & 10 HP panels have Class D resistors as standard.
For 2, 3 & 5 HP requirements, please contact CMCO customer service if Class D resistors are required.

Note: For 575/3/60 power, add to Standard Variable Frequency Drive:

2 hp: ..... Add **$1,763** List
3 hp: ..... Add **$2,065** List
5 hp: ..... Add **$1,456** List
7-1/2 hp: ..... Add **$1,456** List
10 hp: ..... Add **$1,456** List

All prices are in US Funds.

BRIDGE CONTROL PANELS - PLUG & PLAY

VARIABLE FREQUENCY BRIDGE CONTROL PANELS

Features:	**5-20 H.P. Units**
† Magnetek Drive Type	IMPULSE·G+ Mini
Control Only Service Class	5 h.p. = C, 7.5 - 20 h.p.= D
Control Points	2-step, 3-step & 5-step or 2-step & 3-step infinitely variable
Mainline Contactor	60 Amp
Control Transformer	115V / 75VA
Disconnect with Panel Mounted Handle	60 Amp
External Dynamic Braking Resistor	Yes
Fuses	Yes
Hinge Point	Horizontal at bottom of panel

PLUG & PLAY NEMA 4/12 WITH BUILT-IN DISCONNECT FOR BOGIE TRUCK ARRANGEMENTS

Note: Panels for Bogie Arrangements only available in plug & play configuration.

For Bridge Traverse Motions
Speed range up to 20:1 (in F.P.M.)

Includes: DC Brake Relay (9 amp), Surge Suppression on Coil and Space Terminal Board (10 terminals)

Max. Total H.P.	Cross Conductors	Power Supply	** Max. Full Load Amps	Catalog Number 230 V	Catalog Number 200 V	List Price	*** Wt. (lbs.)	Power Supply	** Max. Full Load Amps	Catalog Number 460 V	List Price	*** Wt. (lbs.)
WITH 30 AMP CROSS CONDUCTORS												
5	30 amp	200 to 230 Volts 50/60 Hz	17.5	TBD		**$4,630.00**	110	460 Volts 50/60 Hz	9.2	TBD	**$4,801.00**	110
7-1/2			25			**$6,324.00**			14.8		**$6,672.00**	
10			33			**$6,721.00**			18		**$7,067.00**	
15			47			**$7,922.00**			24		**$8,835.00**	
20			60			**$9,207.00**	160		31		**$9,471.00**	
WITH 60 AMP CROSS CONDUCTORS												
5	60 amp	200 to 230 Volts 50/60 Hz	17.5	TBD		**$5,638.00**	135	460 Volts 50/60 Hz	9.2	TBD	**$5,847.00**	135
7-1/2			25			**$7,706.00**			14.8		**$8,124.00**	
10			33			**$8,186.00**			18		**$8,610.00**	
15			47			**$9,650.00**			24		**$10,761.00**	
20			60			**$11,217.00**	160		31		**$11,536.00**	

† Note: Control Panels are shipped from the factory with the VFD speed set at 100 fpm. Instructions for setting other speeds are listed inside the Control Panel cover. Speed setting must not exceed the speed that was requested at time of order. For more information, contact CMCO Customer Service.

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded, especially on 230 volt applications.

*** Add 15% for approximate shipping weight.

Note: For 575/3/60 power, add to Standard Variable Frequency Drive:
(575/3/60 panels not available with 60A cross conductors)

5 hp: ..... Add **$1,456** List

7 1/2 hp: ..... Add **$1,456** List

10 hp: ..... Add **$1,456** List

15 hp: ..... Add **$1,456** List

20 hp: ..... Add **$1,456** List

SINGLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard.
- For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing. 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

CAST IRON WHEELS (ACTUAL)

For Spans Thru (ft.-in.)	Catalog Number	Wheel Diameter mm (in.)	Wheel Base (ft.-in.)	HP Each Motor	Weight with Gearmotors (lbs.)	Max. Allowable ACTUAL Wheel Loads (lbs.), P									
						25#		30#		40#		60#		80#	
						100 fpm		100 fpm		100 fpm		100 fpm		100 fpm	
						Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D
36-0	115TS040D*07	115 (4.5)	4-6	0.75	448	7100	6300	7500	6600	8400	6600				
50-0	115TS040H*07		6-3		529	6800	6100	7300	6400	8100	6400				
60-0	115TS040L*07		7-6		588	6500	5800	6900	6100	7300	6100				
36-0	160TS040D*10	160 (6.3)	4-6	1	634	10700	9600	11400	10200	13400	11500				
50-0	160TS040H*10		6-3		748	10400	9300	11100	9900	13000	11100				
60-0	160TS040L*10		7-6		829	10000	9000	10700	9500	11800	10700				
36-0	160TS105D*10		4-6		634							14400	11500	14400	11500
50-0	160TS105H*10		6-3		748							13900	11100	13900	11100
60-0	160TS105L*10		7-6		829							11800	10700	11800	10700
36-0	200TS040D*15	200 (7.9)	4-6	1.5	926	13400	12600	14300	13400	16800	15800				
50-0	200TS040H*15		6-3		1076		12300		13100		15400				
60-0	200TS040L*15		7-6		1183	13300	11900	14100	12600	16600	14800				
36-0	200TS105D*15		4-6		926							23500	22100	25200	23700
50-0	200TS105H*15		6-3		1076								21600	24400	23100
60-0	200TS105L*15		7-6		1183							20300	20300	20300	20300
36-0	260TS040D*20	260 (10.2)	4-6	2	1328	17400	16400	18500	17500	21800	20500				
50-0	260TS040H*20		6-3		1495										
60-0	260TS040L*20		7-6		1615		15900		16900		19800				
36-0	260TS105D*20		4-6		1328							30500	28700	32700	30200
50-0	260TS105H*20		6-3		1495										29400
60-0	260TS105L*20		7-6		1615							26300	26300	26300	26300
36-0	305TS050L*50	305 (12.01)	7-6	5	1966	20400	19200	21700	20500	25600	24100				
50-0	305TS050P*50		9-0		2182										
60-0	305TS050T*50		10-0		2338										
36-0	305TS105L*50		7-6		1966							35800	33700	36100	36100
50-0	305TS105P*50		9-0		2182							30100	30100	30100	30100
60-0	305TS105T*50		10-0		2338							27100	27100	27100	27100

BRONZE WHEELS (ACTUAL)

For Spans Thru (ft.-in.)	Catalog Number	Wheel Diameter mm (in.)	Wheel Base (ft.-in.)	HP Each Motor	Weight with Gearmotors (lbs.)	Max. Allowable ACTUAL Wheel Loads (lbs.), P									
						25#		30#		40#		60#		80#	
						100 fpm		100 fpm		100 fpm		100 fpm		100 fpm	
						Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D
36-0	115TS040D*07	115 (4.5)	4-6	0.75	448	5800	5200	6200	5600	7300	6500				
50-0	115TS040H*07		6-3		529	5600	5000	6000	5400	7000	6300				
60-0	115TS040L*07		7-6		588	5400	4800	5700	5100	6700	6000				
36-0	160TS040D*10	160 (6.3)	4-6	1	634	8900	7900	9400	8400	11100	9900				
50-0	160TS040H*10		6-3		748	8600	7700	9100	8200	10700	9600				
60-0	160TS040L*10		7-6		829	8300	7400	8800	7900	10400	9300				
36-0	160TS105D*10		4-6		634							14400	11400	14400	11400
50-0	160TS105H*10		6-3		748							13900	11000	13900	11000
60-0	160TS105L*10		7-6		829							11800	10600	11800	10600
36-0	200TS040D*15	200 (7.9)	4-6	1.5	926	11100	10400	11800	11100	13800	13000				
50-0	200TS040H*15		6-3		1076		10200		10800		12700				
60-0	200TS040L*15		7-6		1183	11000	9800	11600	10400	13700	12200				
36-0	200TS105D*15		4-6		926							19400	18200	20800	19500
50-0	200TS105H*15		6-3		1076								17800	20000	19100
60-0	200TS105L*15		7-6		1183							19200	17100	20300	18300
36-0	260TS040D*20	260 (10.2)	4-6	2	1328	14400	13500	15300	14400	18000	16900				
50-0	260TS040H*20		6-3		1495										
60-0	260TS040L*20		7-6		1615		13100		13900		16400				
36-0	260TS105D*20		4-6		1328							25200	23700	27000	25400
50-0	260TS105H*20		6-3		1495										
60-0	260TS105L*20		7-6		1615								23000	26300	24600
36-0	305TS050L*50	305 (12.01)	7-6	5	1966	16900	15900	17900	16900	21100	19900				
50-0	305TS050P*50		9-0		2182										
60-0	305TS050T*50		10-0		2338										
36-0	305TS105L*50		7-6		1966							29500	27800	31600	29800
50-0	305TS105P*50		9-0		2182									30100	
60-0	305TS105T*50		10-0		2338							27100	27100	27100	27100

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

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YSCKCCPL-0724

SINGLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard.
- For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing. 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

CAST IRON WHEELS (DURABILITY)

For Spans Thru (ft.-in.)	Catalog Number	Wheel Diameter mm (in.)	Wheel Base (ft.-in.)	HP Each Motor	Weight with Gearmotors (lbs.)	Max. Allowable DURABILITY Wheel Loads (lbs.), P									
						25#		30#		40#		60#		80#	
						100 fpm		100 fpm		100 fpm		100 fpm		100 fpm	
						Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D
36-0	115TS040D*07	115	4-6	0.75	448	6200	6200	6600	6400	7300	6500				
50-0	115TS040H*07		6-3		529										
60-0	115TS040L*07	(4.5)	7-6		588										
36-0	160TS040D*10	160 (6.3)	4-6	1	634	8600	8600	9100	9100	10700	10200				
50-0	160TS040H*10		6-3		748										
60-0	160TS040L*10		7-6		829					10400					
36-0	160TS105D*10		4-6		634							11500	10200	11500	10200
50-0	160TS105H*10		6-3		748										
60-0	160TS105L*10		7-6		829							10400		10400	
36-0	200TS040D*15	200 (7.9)	4-6	1.5	926	10700	10700	11400	11400	13400	13400				
50-0	200TS040H*15		6-3		1076										
60-0	200TS040L*15		7-6		1183										
36-0	200TS105D*15		4-6		926							18800	18800	20100	20100
50-0	200TS105H*15		6-3		1076										
60-0	200TS105L*15		7-6		1183							17000	17000	17000	17000
36-0	260TS040D*20	260 (10.2)	4-6	2	1328	14000	14000	14800	14800	17400	17400				
50-0	260TS040H*20		6-3		1495										
60-0	260TS040L*20		7-6		1615										
36-0	260TS105D*20		4-6		1328							24400	24400	26200	26200
50-0	260TS105H*20		6-3		1495										
60-0	260TS105L*20		7-6		1615							22000	22000	22000	22000
36-0	305TS050L*50	305 (12.01)	7-6	5	1966	16400	16400	17400	17400	20400	20400				
50-0	305TS050P*50		9-0		2182										
60-0	305TS050T*50		10-0		2338										
36-0	305TS105L*50		7-6		1966							28600	28600	30700	30700
50-0	305TS105P*50		9-0		2182									30100	30100
60-0	305TS105T*50		10-0		2338							27100	27100	27100	27100

BRONZE WHEELS (DURABILITY)

For Spans Thru (ft.-in.)	Catalog Number	Wheel Diameter mm (in.)	Wheel Base (ft.-in.)	HP Each Motor	Weight with Gearmotors (lbs.)	Max. Allowable DURABILITY Wheel Loads (lbs.), P									
						25#		30#		40#		60#		80#	
						100 fpm		100 fpm		100 fpm		100 fpm		100 fpm	
						Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D	Class C	Class D
36-0	115TS040D*07	115	4-6	0.75	448	5100	5100	5400	5400	6400	6400				
50-0	115TS040H*07		6-3		529										
60-0	115TS040L*07	(4.5)	7-6		588										
36-0	160TS040D*10	160 (6.3)	4-6	1	634	7100	7100	7500	7500	8900	8900				
50-0	160TS040H*10		6-3		748										
60-0	160TS040L*10		7-6		829										
36-0	160TS105D*10		4-6		634							11500	10200	11500	10200
50-0	160TS105H*10		6-3		748										
60-0	160TS105L*10		7-6		829							10100	10100	10100	10100
36-0	200TS040D*15	200 (7.9)	4-6	1.5	926	8900	8900	9400	9400	11100	11100				
50-0	200TS040H*15		6-3		1076										
60-0	200TS040L*15		7-6		1183										
36-0	200TS105D*15		4-6		926							15500	15500	16600	16600
50-0	200TS105H*15		6-3		1076										
60-0	200TS105L*15		7-6		1183									16400	16400
36-0	260TS040D*20	260 (10.2)	4-6	2	1328	11500	11500	12200	12200	14400	14400				
50-0	260TS040H*20		6-3		1495										
60-0	260TS040L*20		7-6		1615										
36-0	260TS105D*20		4-6		1328							20200	20200	21600	21600
50-0	260TS105H*20		6-3		1495										
60-0	260TS105L*20		7-6		1615									21000	21000
36-0	305TS050L*50	305 (12.01)	7-6	5	1966	13500	13500	14400	14400	16900	16900				
50-0	305TS050P*50		9-0		2182										
60-0	305TS050T*50		10-0		2338										
36-0	305TS105L*50		7-6		1966							23600	23600	25300	25300
50-0	305TS105P*50		9-0		2182										
60-0	305TS105T*50		10-0		2338										

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

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All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

160 MM (6.3") WHEELS, 30#-40# RAIL (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Loads (lbs.), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	4-6	30#	160TD040LD*10	160 (6.3")	10200	9100	8400	7500	1	858
		5-0		160TD040LE*10							
63-0	9-0	4-6		160TD040PD*10							954
		5-0		160TD040PE*10							
		5-6		160TD040PF*10							
		6-0		160TD040PG*10							
		6-6		160TD040PJ*10							
60-0	10-0	4-6		160TD040TD*10							1018
		5-0		160TD040TE*10							
		5-6		160TD040TF*10							
		6-0		160TD040TG*10							
		6-6		160TD040TJ*10							
		7-0		160TD040TK*10							
		7-6		160TD040TL*10							
52-6	7-6	4-6	40#	160TD040LD*10	160 (6.3")	12000	10700	9893	8800	1	858
		5-0		160TD040LE*10							
63-0	9-0	4-6		160TD040PD*10							954
		5-0		160TD040PE*10							
		5-6		160TD040PF*10							
		6-0		160TD040PG*10							
		6-6		160TD040PJ*10							
60-0	10-0	4-6		160TD040TD*10							1018
		5-0		160TD040TE*10							
		5-6		160TD040TF*10							
		6-0		160TD040TG*10							
		6-6		160TD040TJ*10							
		7-0		160TD040TK*10							
		7-6		160TD040TL*10							

160 MM (6.3") WHEELS, 60#-80# RAIL (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Loads (lbs.), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	4-6	60#	160TD0105LD*10	160 (6.3")	16800	15000	13900	12400	1	858
		5-0		160TD105LE*10							
63-0	9-0	4-6		160TD105PD*10							954
		5-0		160TD105PE*10							
		5-6		160TD105PF*10							
		6-0		160TD105PG*10							
		6-6		160TD105PJ*10							
60-0	10-0	4-6		160TD105TD*10							1018
		5-0		160TD105TE*10							
		5-6		160TD105TF*10							
		6-0		160TD105TG*10							
		6-6		160TD105TJ*10							
		7-0		160TD105TK*10							
		7-6		160TD105TL*10							
52-6	7-6	4-6	80#	160TD0105LD*10	160 (6.3")	18000	15600	14800	13300	1	858
		5-0		160TD105LE*10							
63-0	9-0	4-6		160TD105PD*10							954
		5-0		160TD105PE*10							
		5-6		160TD105PF*10							
		6-0		160TD105PG*10							
		6-6		160TD105PJ*10							
60-0	10-0	4-6		160TD105TD*10							1018
		5-0		160TD105TE*10							
		5-6		160TD105TF*10							
		6-0		160TD105TG*10							
		6-6		160TD105TJ*10							
		7-0		160TD105TK*10							
		7-6		160TD105TL*10							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

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DOUBLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

160 MM (6.3") WHEELS, 30#-40# RAIL (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	4-6	30#	160TD040LD*10	160 (6.3")	9100	9100	7500	7500	1	858
		5-0		160TD040LE*10							
63-0	9-0	4-6		160TD040PD*10							954
		5-0		160TD040PE*10							
		5-6		160TD040PF*10							
		6-0		160TD040PG*10							
		6-6		160TD040PJ*10							
60-0	10-0	4-6		160TD040TD*10							1018
		5-0		160TD040TE*10							
		5-6		160TD040TF*10							
		6-0		160TD040TG*10							
		6-6		160TD040TJ*10							
		7-0		160TD040TK*10							
		7-6		160TD040TL*10							
52-6	7-6	4-6	40#	160TD040LD*10	160 (6.3")	10700	10200	8900	8900	1	858
		5-0		160TD040LE*10							
63-0	9-0	4-6		160TD040PD*10							954
		5-0		160TD040PE*10							
		5-6		160TD040PF*10							
		6-0		160TD040PG*10							
		6-6		160TD040PJ*10							
60-0	10-0	4-6		160TD040TD*10							1018
		5-0		160TD040TE*10							
		5-6		160TD040TF*10							
		6-0		160TD040TG*10							
		6-6		160TD040TJ*10							
		7-0		160TD040TK*10							
		7-6		160TD040TL*10							

160 MM (6.3") WHEELS, 60#-80# RAIL (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	4-6	60#	160TD0105LD*10	160 (6.3")	11500	10200	11500	10200	1	858
		5-0		160TD105LE*10							
63-0	9-0	4-6		160TD105PD*10							954
		5-0		160TD105PE*10							
		5-6		160TD105PF*10							
		6-0		160TD105PG*10							
		6-6		160TD105PJ*10							
60-0	10-0	4-6		160TD105TD*10							1018
		5-0		160TD105TE*10							
		5-6		160TD105TF*10							
		6-0		160TD105TG*10							
		6-6		160TD105TJ*10							
		7-0		160TD105TK*10							
		7-6		160TD105TL*10							
52-6	7-6	4-6	80#	160TD0105LD*10	160 (6.3")	11500	10200	11500	10200	1	858
		5-0		160TD105LE*10							
63-0	9-0	4-6		160TD105PD*10							954
		5-0		160TD105PE*10							
		5-6		160TD105PF*10							
		6-0		160TD105PG*10							
		6-6		160TD105PJ*10							
60-0	10-0	4-6		160TD105TD*10							1018
		5-0		160TD105TE*10							
		5-6		160TD105TF*10							
		6-0		160TD105TG*10							
		6-6		160TD105TJ*10							
		7-0		160TD105TK*10							
		7-6		160TD105TL*10							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

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DOUBLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard.
- For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.

200 MM (7.9") WHEELS, 30#-40# RAIL (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	5-0	30#	200TD040LE*15	200 (7.9")	13600	12200	11200	10000	1.5	1220
63-0	9-0	5-0		200TD040PE*15							1334
		5-6		200TD040PF*15							
		6-0		200TD040PG*15							
		6-6		200TD040PG*15							
60-0	10-0	5-0		200TD040TE*15							1440
		5-6		200TD040TF*15							
		6-0		200TD040TG*15							
		6-6		200TD040TJ*15							
		7-0		200TD040TK*15							
		7-6		200TD040TL*15							
52-6	7-6	5-0	40#	200TD040LE*15	200 (7.9")	16000	12200	13200	11800	1.5	1220
63-0	9-0	5-0		200TD040PE*15							1334
		5-6		200TD040PF*15							
		6-0		200TD040PG*15							
		6-6		200TD040PG*15							
60-0	10-0	5-0		200TD040TE*15							1440
		5-6		200TD040TF*15							
		6-0		200TD040TG*15							
		6-6		200TD040TJ*15							
		7-0		200TD040TK*15							
		7-6		200TD040TL*15							

200 MM (7.9") WHEELS, 60#-80# RAIL (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	5-0	60#	200TD105LE*15	200 (7.9")	22400	20000	18500	16500	1.5	1220
63-0	9-0	5-0		200TD105PE*15							1334
		5-6		200TD105PF*15							
		6-0		200TD105PG*15							
		6-6		200TD105PG*15							
60-0	10-0	5-0		200TD105TE*15							1440
		5-6		200TD105TF*15							
		6-0		200TD105TG*15							
		6-6		200TD105TJ*15							
		7-0		200TD105TK*15							
		7-6		200TD105TL*15							
52-6	7-6	5-0	80#	200TD105LE*15	200 (7.9")	24000	21500	19800	17700	1.5	1220
63-0	9-0	5-0		200TD105PE*15							1334
		5-6		200TD105PF*15							
		6-0		200TD105PG*15							
		6-6		200TD105PG*15							
60-0	10-0	5-0		200TD105TE*15							1440
		5-6		200TD105TF*15							
		6-0		200TD105TG*15							
		6-6		200TD105TJ*15							
		7-0		200TD105TK*15							
		7-6		200TD105TL*15							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60
- 3 = 230/3/60 • 4 = 460/3/60

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

200 MM (7.9") WHEELS, 30#-40# RAIL (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	5-0	30#	200TD040LE*15	200 (7.9")	11400	11400	9400	9400	1.5	1220
63-0	9-0	5-0		200TD040PE*15							1334
		5-6		200TD040PF*15							
		6-0		200TD040PG*15							
		6-6		200TD040PG*15							
60-0	10-0	5-0		200TD040TE*15							1440
		5-6		200TD040TF*15							
		6-0		200TD040TG*15							
		6-6		200TD040TJ*15							
		7-0		200TD040TK*15							
		7-6		200TD040TL*15							
52-6	7-6	5-0	40#	200TD040LE*15	200 (7.9")	13400	13400	11100	11100	1.5	1220
63-0	9-0	5-0		200TD040PE*15							1334
		5-6		200TD040PF*15							
		6-0		200TD040PG*15							
		6-6		200TD040PG*15							
60-0	10-0	5-0		200TD040TE*15							1440
		5-6		200TD040TF*15							
		6-0		200TD040TG*15							
		6-6		200TD040TJ*15							
		7-0		200TD040TK*15							
		7-6		200TD040TL*15							

200 MM (7.9") WHEELS, 60#-80# RAIL (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
52-6	7-6	5-0	60#	200TD105LE*15	200 (7.9")	18800	18800	15500	15500	1.5	1220
63-0	9-0	5-0		200TD105PE*15							1334
		5-6		200TD105PF*15							
		6-0		200TD105PG*15							
		6-6		200TD105PG*15							
60-0	10-0	5-0		200TD105TE*15							1440
		5-6		200TD105TF*15							
		6-0		200TD105TG*15							
		6-6		200TD105TJ*15							
		7-0		200TD105TK*15							
		7-6		200TD105TL*15							
52-6	7-6	5-0	80#	200TD105LE*15	200 (7.9")	20100	20100	16600	16600	1.5	1220
63-0	9-0	5-0		200TD105PE*15							1334
		5-6		200TD105PF*15							
		6-0		200TD105PG*15							
		6-6		200TD105PG*15							
60-0	10-0	5-0		200TD105TE*15							1440
		5-6		200TD105TF*15							
		6-0		200TD105TG*15							
		6-6		200TD105TJ*15							
		7-0		200TD105TK*15							
		7-6		200TD105TL*15							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60
- 3 = 230/3/60 • 4 = 460/3/60

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

260 MM (10.2") WHEELS, 30#-80# RAIL WITH 2 HP MOTOR (100 FPM) (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	260TD040PE*20	260 (10.2")	18500	17200	15200	14200	2	1828
		5-6		260TD040PF*20							
		6-0		260TD040PG*20							
70-0	10-0	5-0		260TD040TE*20							1954
		5-6		260TD040TF*20							
		6-0		260TD040TG*20							
		6-6		260TD040TJ*20							
		7-0		260TD040TK*20							
63-0	9-0	5-0	40#	260TD040PE*20	260 (10.2")	21700	20300	17900	16700	2	1828
		5-6		260TD040PF*20							
		6-0		260TD040PG*20							
70-0	10-0	5-0		260TD040TE*20							1954
		5-6		260TD040TF*20							
		6-0		260TD040TG*20							
		6-6		260TD040TJ*20							
		7-0		260TD040TK*20							
63-0	9-0	5-0	60#	260TD105PE*20	260 (10.2")	30400	28400	25100	23400	2	1828
		5-6		260TD105PF*20							
		6-0		260TD105PG*20							
70-0	10-0	5-0		260TD105TE*20							1954
		5-6		260TD105TF*20							
		6-0		260TD105TG*20							
		6-6		260TD105TJ*20							
		7-0		260TD105TK*20							
63-0	9-0	5-0	80#	260TD105PE*20	260 (10.2")	32600	30400	26900	25100	2	1828
		5-6		260TD105PF*20							
		6-0		260TD105PG*20							
70-0	10-0	5-0		260TD105TE*20							1954
		5-6		260TD105TF*20							
		6-0		260TD105TG*20							
		6-6		260TD105TJ*20							
		7-0		260TD105TK*20							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

260 MM (10.2") WHEELS, 30#-80# RAIL WITH 3 HP MOTOR (150 FPM) (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	260TD040PE*30	260 (10.2")	18300	16300	15100	13500	3	1842
		5-6		260TD040PF*30							
		6-0		260TD040PG*30							
70-0	10-0	5-0		260TD040TE*30							1938
		5-6		260TD040TF*30							
		6-0		260TD040TG*30							
		6-6		260TD040TJ*30							
		7-0		260TD040TK*30							
63-0	9-0	5-0	40#	260TD040PE*30	260 (10.2")	21500	19200	17700	15800	3	1842
		5-6		260TD040PF*30							
		6-0		260TD040PG*30							
70-0	10-0	5-0		260TD040TE*30							1938
		5-6		260TD040TF*30							
		6-0		260TD040TG*30							
		6-6		260TD040TJ*30							
		7-0		260TD040TK*30							
63-0	9-0	5-0	60#	260TD105PE*30	260 (10.2")	30100	26800	24800	22200	3	1842
		5-6		260TD105PF*30							
		6-0		260TD105PG*30							
70-0	10-0	5-0		260TD105TE*30							1938
		5-6		260TD105TF*30							
		6-0		260TD105TG*30							
		6-6		260TD105TJ*30							
		7-0		260TD105TK*30							
63-0	9-0	5-0	80#	260TD105PE*30	260 (10.2")	32200	28800	26600	23700	3	1842
		5-6		260TD105PF*30							
		6-0		260TD105PG*30							
70-0	10-0	5-0		260TD105TE*30							1938
		5-6		260TD105TF*30							
		6-0		260TD105TG*30							
		6-6		260TD105TJ*30							
		7-0		260TD105TK*30							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

260 MM (10.2") WHEELS, 30#-80# RAIL WITH 2 HP MOTOR (100 FPM) (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	260TD040PE*20	260 (10.2")	14800	14800	12200	12200	2	1828
		5-6		260TD040PF*20							
		6-0		260TD040PG*20							
70-0	10-0	5-0		260TD040TE*20							1954
		5-6		260TD040TF*20							
		6-0		260TD040TG*20							
		6-6		260TD040TJ*20							
		7-0		260TD040TK*20							
63-0	9-0	5-0	40#	260TD040PE*20	260 (10.2")	17400	17400	14400	14400	2	1828
		5-6		260TD040PF*20							
		6-0		260TD040PG*20							
70-0	10-0	5-0		260TD040TE*20							1954
		5-6		260TD040TF*20							
		6-0		260TD040TG*20							
		6-6		260TD040TJ*20							
		7-0		260TD040TK*20							
63-0	9-0	5-0	60#	260TD105PE*20	260 (10.2")	24400	24400	20200	20200	2	1828
		5-6		260TD105PF*20							
		6-0		260TD105PG*20							
70-0	10-0	5-0		260TD105TE*20							1954
		5-6		260TD105TF*20							
		6-0		260TD105TG*20							
		6-6		260TD105TJ*20							
		7-0		260TD105TK*20							
63-0	9-0	5-0	80#	260TD105PE*20	260 (10.2")	26200	26200	21600	21600	2	1828
		5-6		260TD105PF*20							
		6-0		260TD105PG*20							
70-0	10-0	5-0		260TD105TE*20							1954
		5-6		260TD105TF*20							
		6-0		260TD105TG*20							
		6-6		260TD105TJ*20							
		7-0		260TD105TK*20							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

260 MM (10.2") WHEELS, 30#-80# RAIL WITH 3 HP MOTOR (150 FPM) (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	260TD040PE*30	260 (10.2")	14800	14800	12200	12200	3	1842
		5-6		260TD040PF*30							
		6-0		260TD040PG*30							
70-0	10-0	5-0		260TD040TE*30							1938
		5-6		260TD040TF*30							
		6-0		260TD040TG*30							
		6-6		260TD040TJ*30							
		7-0		260TD040TK*30							
63-0	9-0	5-0	40#	260TD040PE*30	260 (10.2")	17400	17400	14400	14400	3	1842
		5-6		260TD040PF*30							
		6-0		260TD040PG*30							
70-0	10-0	5-0		260TD040TE*30							1938
		5-6		260TD040TF*30							
		6-0		260TD040TG*30							
		6-6		260TD040TJ*30							
		7-0		260TD040TK*30							
63-0	9-0	5-0	60#	260TD105PE*30	260 (10.2")	24400	24400	20200	20200	3	1842
		5-6		260TD105PF*30							
		6-0		260TD105PG*30							
70-0	10-0	5-0		260TD105TE*30							1938
		5-6		260TD105TF*30							
		6-0		260TD105TG*30							
		6-6		260TD105TJ*30							
		7-0		260TD105TK*30							
63-0	9-0	5-0	80#	260TD105PE*30	260 (10.2")	26200	26200	21600	21600	3	1842
		5-6		260TD105PF*30							
		6-0		260TD105PG*30							
70-0	10-0	5-0		260TD105TE*30							1938
		5-6		260TD105TF*30							
		6-0		260TD105TG*30							
		6-6		260TD105TJ*30							
		7-0		260TD105TK*30							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

ACTUAL WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

305 MM (12.01") WHEELS, 30#-80# RAIL WITH 5 HP MOTOR (200 FPM) (ACTUAL)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable ACTUAL Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	305TD050PE*30	305 (12.01")	21700	19700	18000	16300	5	2639
		5-6		305TD050PF*30							
		6-0		305TD050PG*30							
70-0	10-0	5-0		305TD050TE*30							2764
		5-6		305TD050TF*30							
		6-0		305TD050TG*30							
		6-6		305TD050TJ*30							
		7-0		305TD050TK*30							
63-0	9-0	5-0	40#	305TD050PE*30	305 (12.01")	25600	23200	21100	19200	5	2639
		5-6		305TD050PF*30							
		6-0		305TD050PG*30							
70-0	10-0	5-0		305TD050TE*30							2764
		5-6		305TD050TF*30							
		6-0		305TD050TG*30							
		6-6		305TD050TJ*30							
		7-0		305TD050TK*30							
63-0	9-0	5-0	60#	305TD105PE*30	305 (12.01")	35800	32500	29500	26800	5	2639
		5-6		305TD105PF*30							
		6-0		305TD105PG*30							
70-0	10-0	5-0		305TD105TE*30							2764
		5-6		305TD105TF*30							
		6-0		305TD105TG*30							
		6-6		305TD105TJ*30							
		7-0		305TD105TK*30							
63-0	9-0	5-0	80#	305TD105PE*30	305 (12.01")	38300	34800	31600	28700	5	2639
		5-6		305TD105PF*30							
		6-0		305TD105PG*30							
70-0	10-0	5-0		305TD105TE*30							2764
		5-6		305TD105TF*30							
		6-0		305TD105TG*30							
		6-6		305TD105TJ*30							
		7-0		305TD105TK*30							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

DOUBLE GIRDER TOP-RUNNING END TRUCKS

DURABILITY WHEEL LOAD CHART

- The truck frame is manufactured from a single piece of ASTM A500 rectangular tube for maximum strength and minimum width.
- All trucks are provided with bolt on rail sweeps for ease of serviceability and cylindrical rubber bumpers mounted as standard.
- All wheels are flat tread design. Cast iron wheels are hardened to 300 - 350 BHN. Bronze wheels are 225 BHN. Wheels are suitable for operation on ASCE rail as standard. For square bar applications using 160 mm, 200 mm or 260 mm end trucks, please contact factory for pricing.
- 115 mm end trucks are not suitable for operation on square bar.
- Wheel bearings provide a minimum of 5,000 hours of L-10 bearing life for Class C service and 10,000 hours of L-10 life for Class D service.
- Maximum wheel load and bearing life are determined in accordance with CMAA Specification No. 74.
- Gear motors are 30 minute rated for both Class C & D applications. 60 minute motors are priced upon application. Per CMAA 5.2.7, Time rating depends on analysis of actual service requirements.

305 MM (12.1") WHEELS, 30#-80# RAIL WITH 5 HP MOTOR (200 FPM) (DURABILITY)

For Spans Thru (ft.-in.)	Wheel Base (ft.-in.)	Gage (ft.-in.)	ASCE Rail	Catalog Number	Wheel Diameter mm (in.)	Max. Allowable DURABILITY Wheel Load (lbs), P				HP Each Motor	Weight with Gearmotors (lbs.)
						Cast Iron Wheels		Bronze Wheels - 225 Bhn			
						Class C	Class D	Class C	Class D		
63-0	9-0	5-0	30#	305TD050PE*30	305 (12.01")	17400	17400	14400	14400	5	2639
		5-6		305TD050PF*30							
		6-0		305TD050PG*30							
70-0	10-0	5-0		305TD050TE*30							2764
		5-6		305TD050TF*30							
		6-0		305TD050TG*30							
		6-6		305TD050TJ*30							
		7-0		305TD050TK*30							
63-0	9-0	5-0	40#	305TD050PE*30	305 (12.01")	20400	20400	16900	16900	5	2639
		5-6		305TD050PF*30							
		6-0		305TD050PG*30							
70-0	10-0	5-0		305TD050TE*30							2764
		5-6		305TD050TF*30							
		6-0		305TD050TG*30							
		6-6		305TD050TJ*30							
		7-0		305TD050TK*30							
63-0	9-0	5-0	60#	305TD105PE*30	305 (12.01")	28600	28600	23600	23600	5	2639
		5-6		305TD105PF*30							
		6-0		305TD105PG*30							
70-0	10-0	5-0		305TD105TE*30							2764
		5-6		305TD105TF*30							
		6-0		305TD105TG*30							
		6-6		305TD105TJ*30							
		7-0		305TD105TK*30							
63-0	9-0	5-0	80#	305TD105PE*30	305 (12.01")	30700	30700	25300	25300	5	2639
		5-6		305TD105PF*30							
		6-0		305TD105PG*30							
70-0	10-0	5-0		305TD105TE*30							2764
		5-6		305TD105TF*30							
		6-0		305TD105TG*30							
		6-6		305TD105TJ*30							
		7-0		305TD105TK*30							

The Maximum Actual Wheel Load, P, is calculated using the actual dead loads and live loads due to the crane and hoist and shall not exceed the Maximum Allowable Wheel Loads listed in the table. In some cases values in the table have been adjusted due to bearing life and bending moment considerations.

Values have been estimated based on end trucks being used as part of "plug & play" crane kits including Global King or World Series wire rope hoist built to FEM 2m / ASME H4 minimum design.

Verification of all truck selections using the CMCO CRANE ESTIMATOR is recommended to ensure optimum truck model for your specific application.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

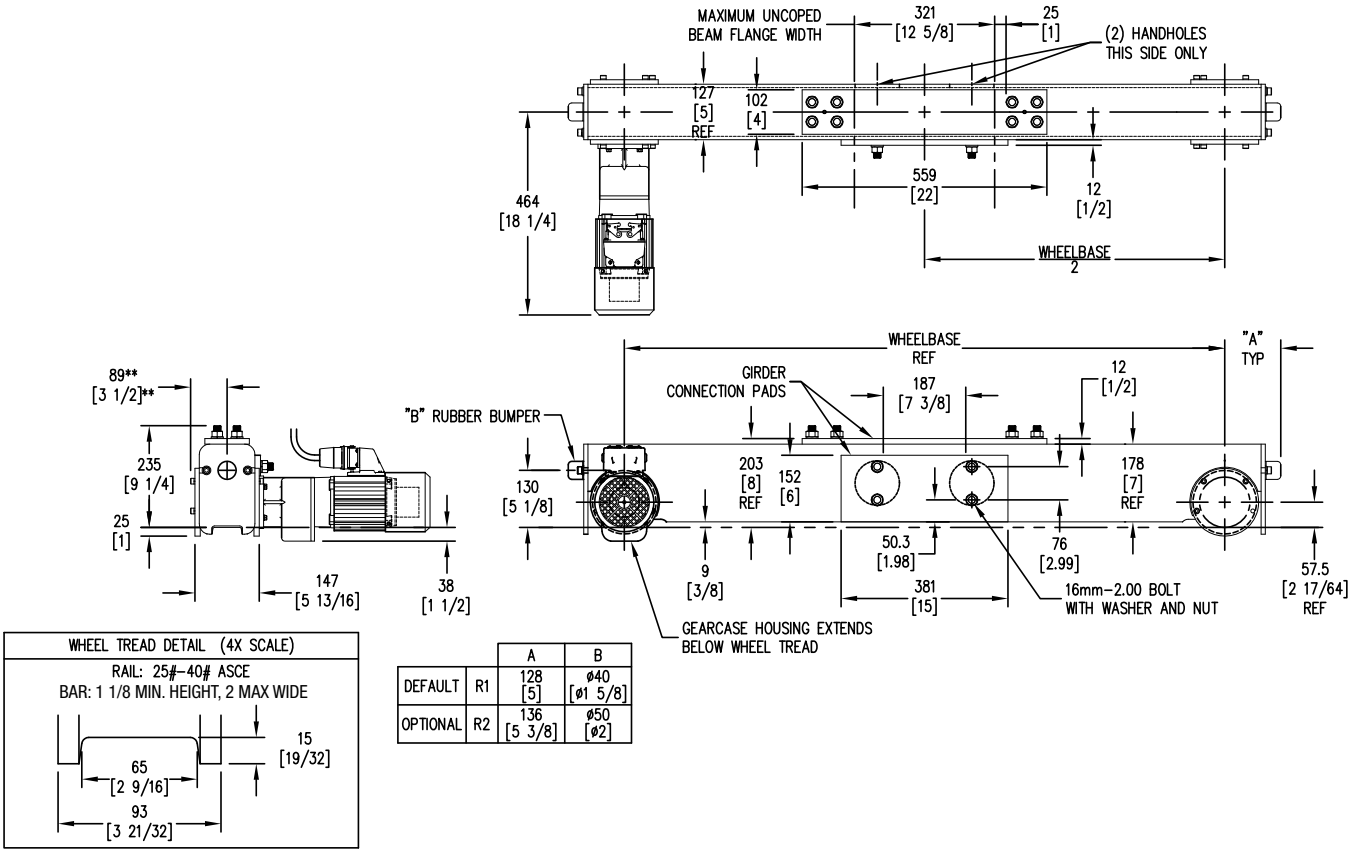
Max Allowable Vertical Bending Moment		
115 mm	=	306,000 lb.-in.
160 mm	=	495,000 lb.-in.
200 mm	=	853,000 lb.-in.
260 mm	=	1,081,000 lb.-in.
305 mm	=	1,373,000 lb.-in.

All prices are in US Funds.

CRANE COMPONENTS

115 [4.5"] WHEEL END TRUCK DIMENSIONS

METRIC-MM [INCH]



WHEEL TREAD DETAIL (4X SCALE)

RAIL: 25#–40# ASCE

BAR: 1 1/8 MIN. HEIGHT, 2 MAX WIDE

		A	B
DEFAULT	R1	128 [5]	ø40 [ø1 5/8]
OPTIONAL	R2	136 [5 3/8]	ø50 [ø2]

Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail
115TS040D*07	4 - 6	25 - 40#
115TS040H*07	6 - 3	
115TS040L*07	7 - 6	

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

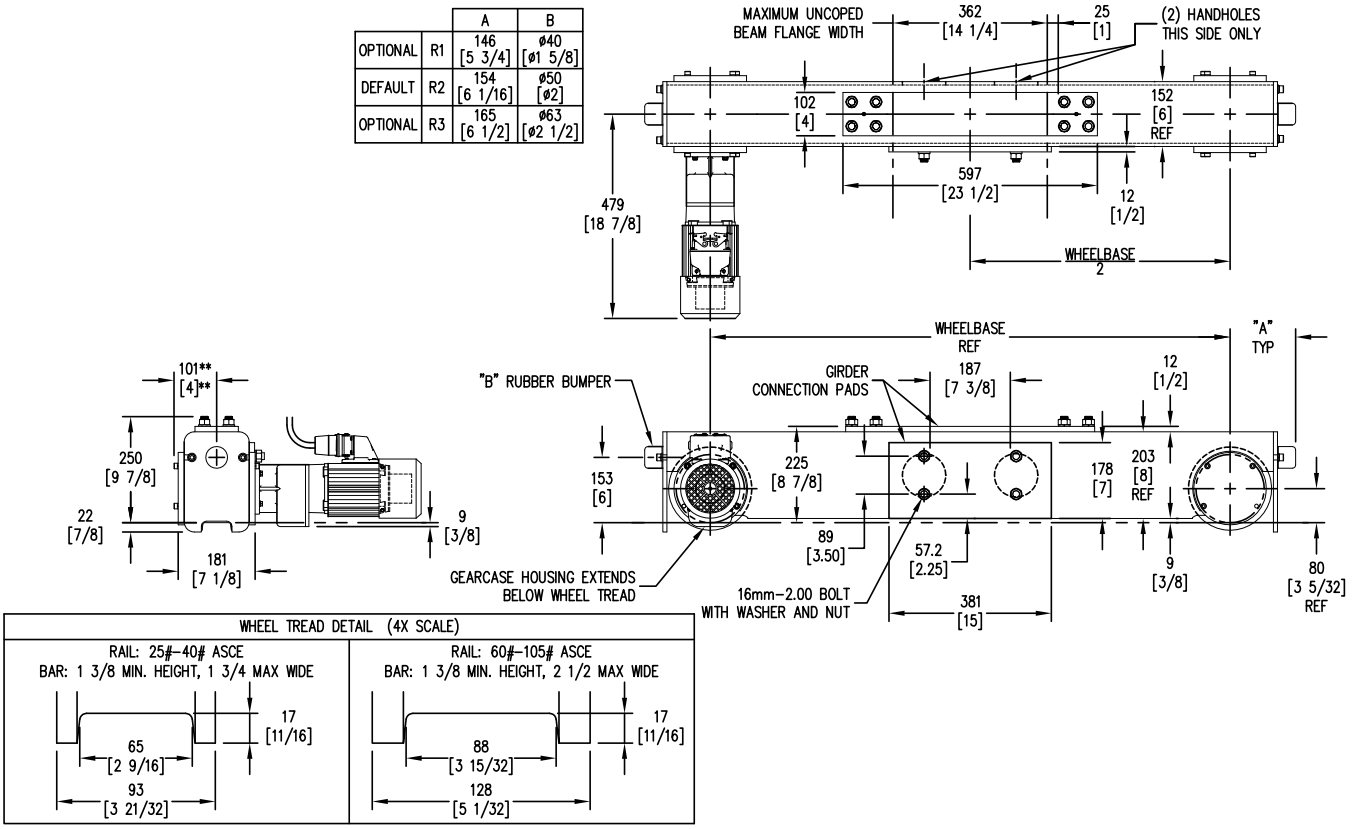
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

CRANE COMPONENTS

160 [6.3"] WHEEL END TRUCK DIMENSIONS

METRIC-MM [INCH]



Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail
160TS040D*10	4 - 6	25 - 40#
160TS040H*10	6 - 3	
160TS040L*10	7 - 6	
160TS105D*10	4 - 6	60 - 105#
160TS105H*10	6 - 3	
160TS105L*10	7 - 6	

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

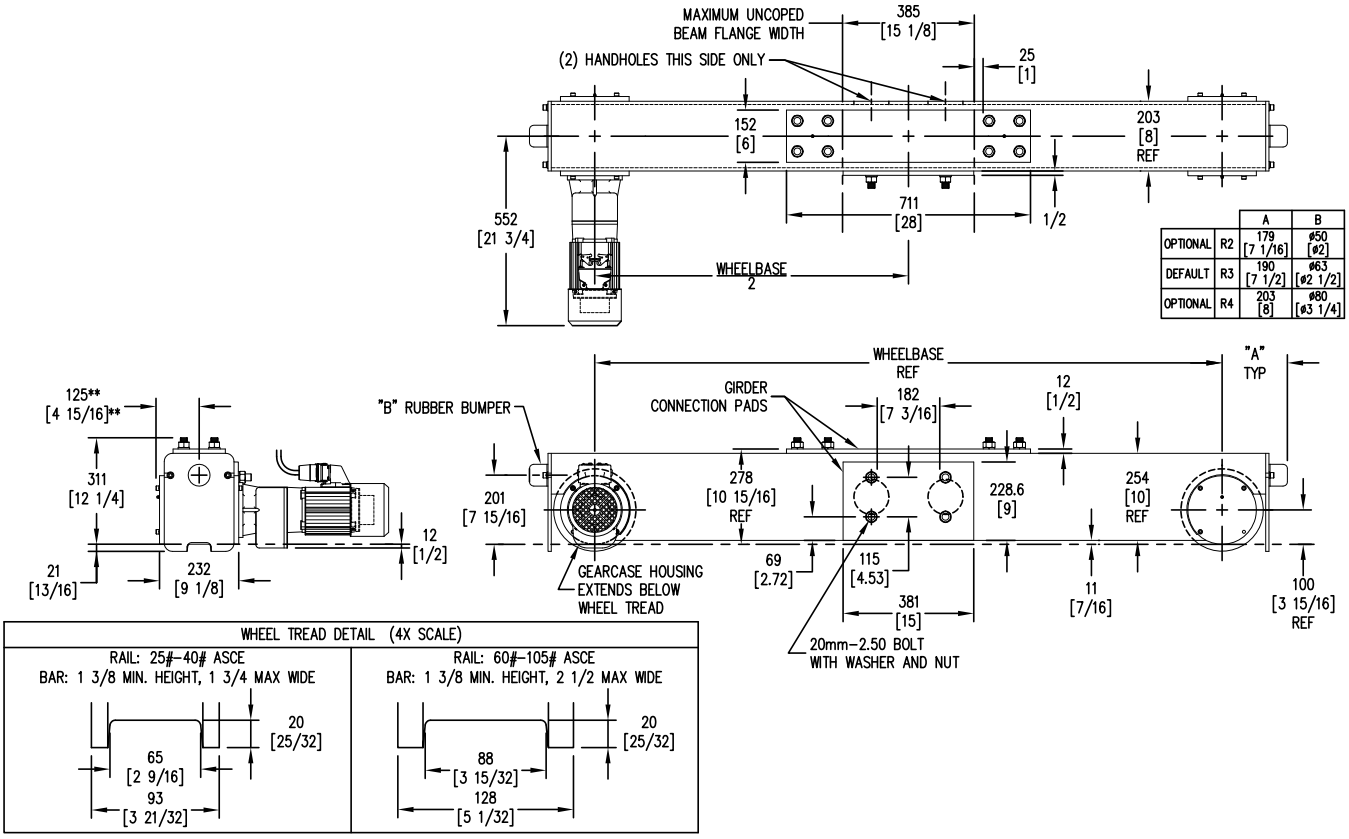
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

CRANE COMPONENTS

SINGLE GIRDER TOP-RUNNING

200 [7.9"] WHEEL END TRUCK DIMENSIONS
METRIC-MM [INCH]



Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail
200TS040D*15	4 - 6	25 - 40#
200TS040H*15	6 - 3	
200TS040L*15	7 - 6	
200TS105D*15	4 - 6	60 - 105#
200TS105H*15	6 - 3	
200TS105L*15	7 - 6	

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

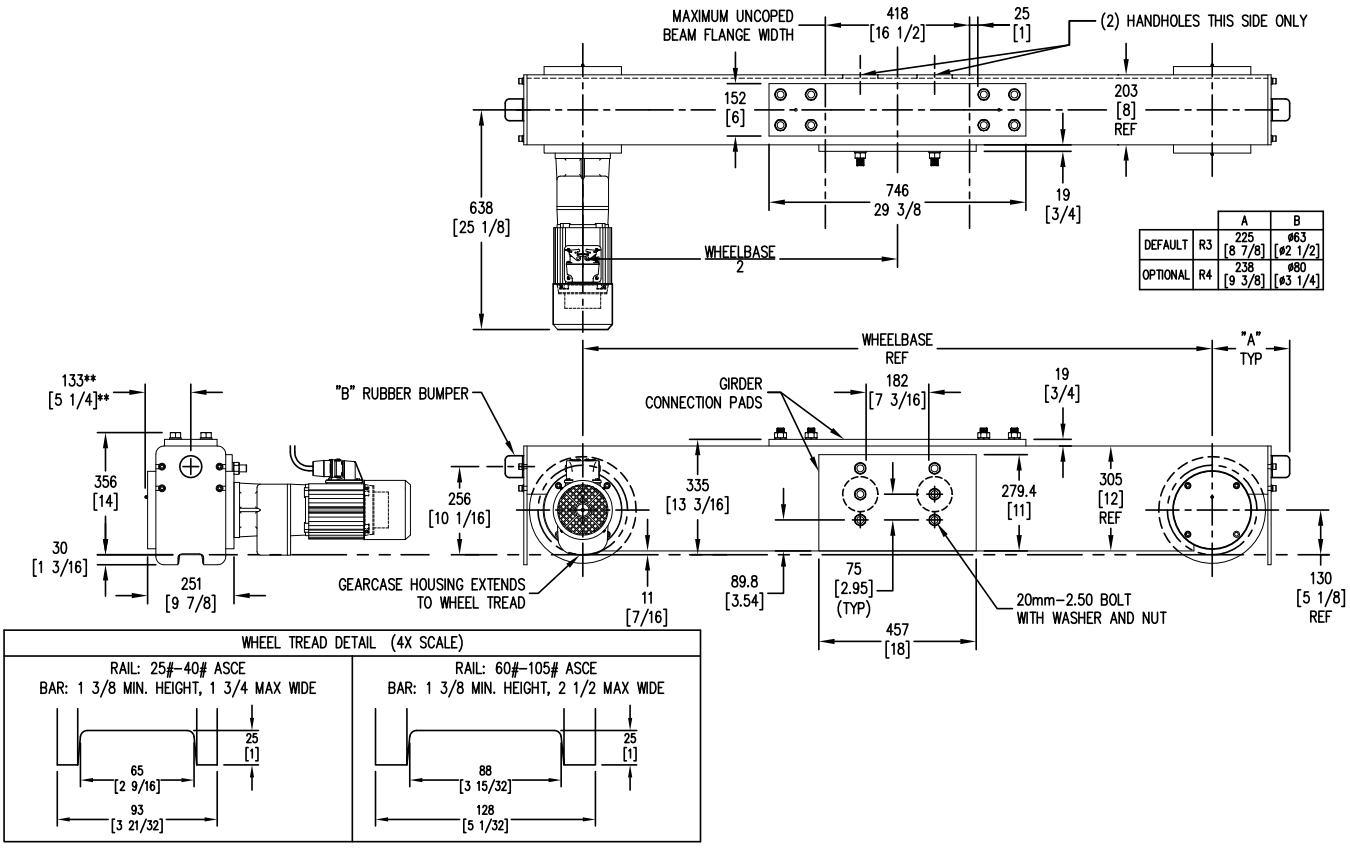
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

CRANE COMPONENTS

SINGLE GIRDER TOP-RUNNING

260 [10.2"] WHEEL END TRUCK DIMENSIONS
METRIC-MM [INCH]



Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail	Maximum Bridge Speed
260TS040D*20	4 - 6	25 - 40#	100 fpm 2 HP Drives
260TS040H*20	6 - 3		
260TS040L*20	7 - 6		
260TS105D*20	4 - 6	60 - 105#	
260TS105H*20	6 - 3		
260TS105L*20	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

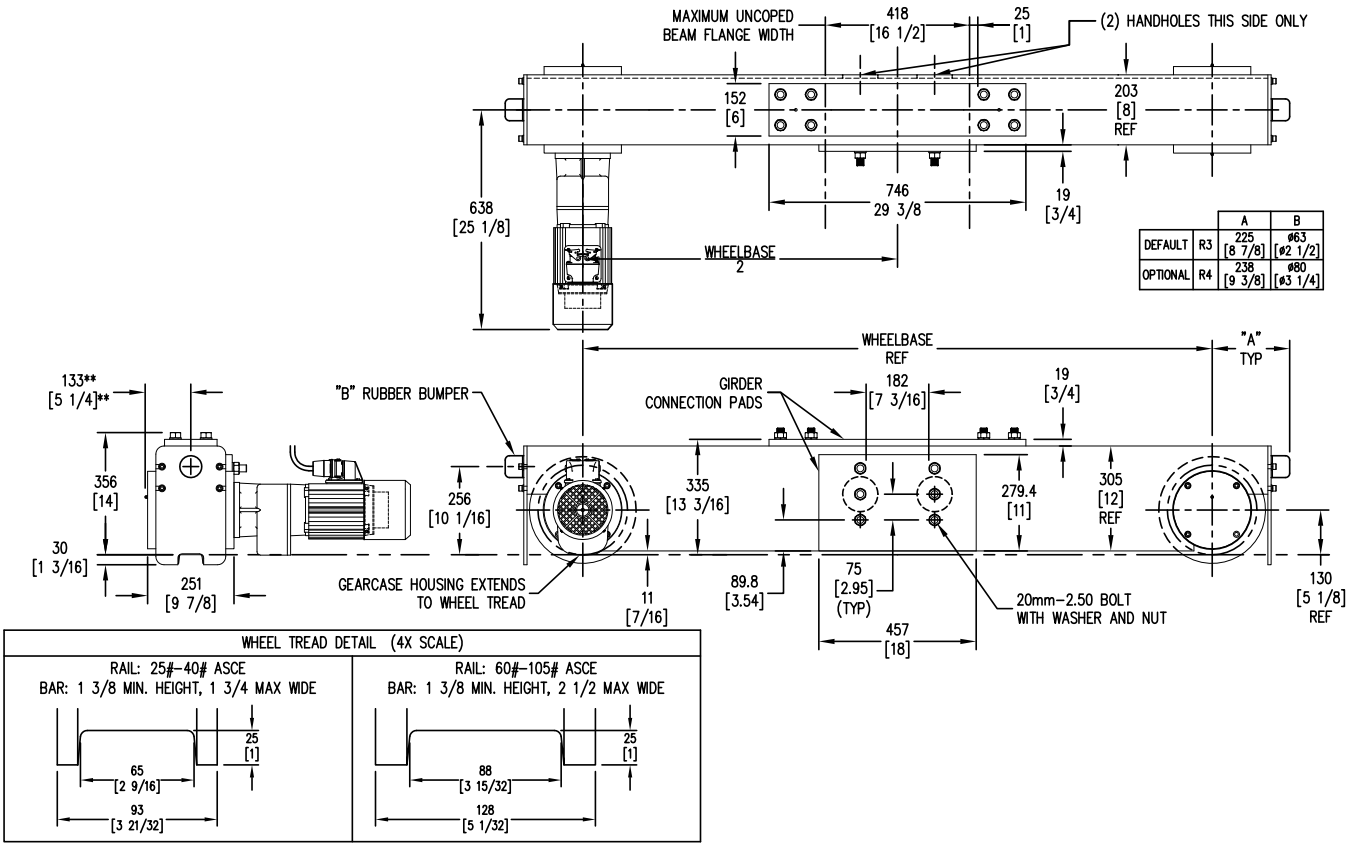
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

CRANE COMPONENTS

SINGLE GIRDER TOP-RUNNING

260 [10.2"] WHEEL END TRUCK DIMENSIONS
METRIC-MM [INCH]



Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail	Maximum Bridge Speed
260TS040D*30	4 - 6	25 - 40#	150 fpm 3 HP Drives
260TS040H*30	6 - 3		
260TS040L*30	7 - 6		
260TS105D*30	4 - 6	60 - 105#	
260TS105H*30	6 - 3		
260TS105L*30	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

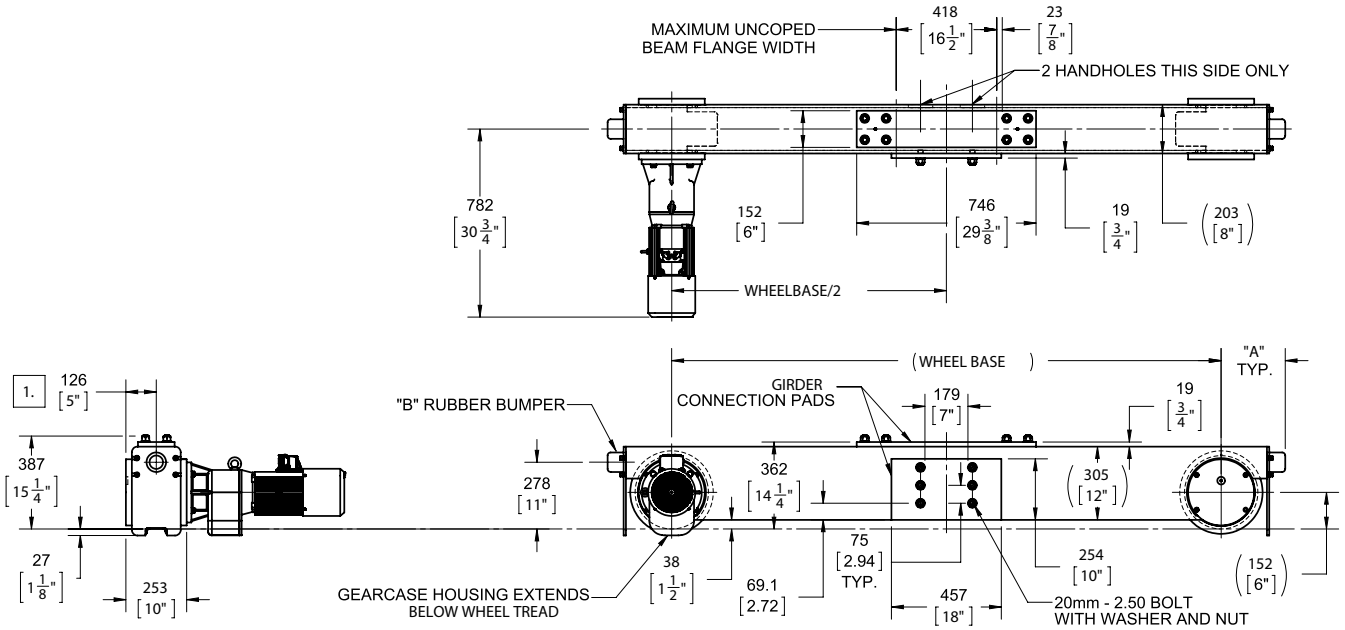
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

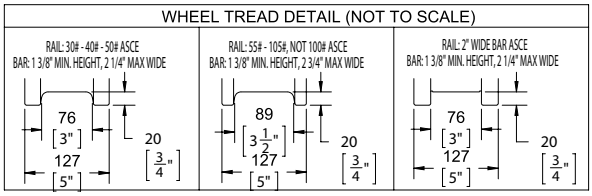
CRANE COMPONENTS

SINGLE GIRDER TOP-RUNNING

305 MM END TRUCK ASSEMBLY CD
SINGLE GIRDER CONNECTION
INTEGRAL ROT. AXLE END TRUCK



		A	B
DEFAULT	R4	267 (10 1/2)	ø 83 [ø 3 1/4]
OPTIONAL	R5	286 (11 1/4)	ø 102 [ø 4]
OPTIONAL	R6	306 (12 3/64)	ø 127 [ø 5]



Truck & Drive Catalog Number	A Wheelbase (ft.-in.)	Rail	Maximum Bridge Speed
305TS050H*50	6-3	30-50#	200 fpm 5 HP Drives
305TS050L*50	7-6		
305TS105H*50	6-3	55-105#	
305TS105L*50	7-6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60 • 2 = 208/3/60 • 3 = 230/3/60
- 4 = 460/3/60 • 5 = 575/3/60 • 6 = 380/3/50

**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

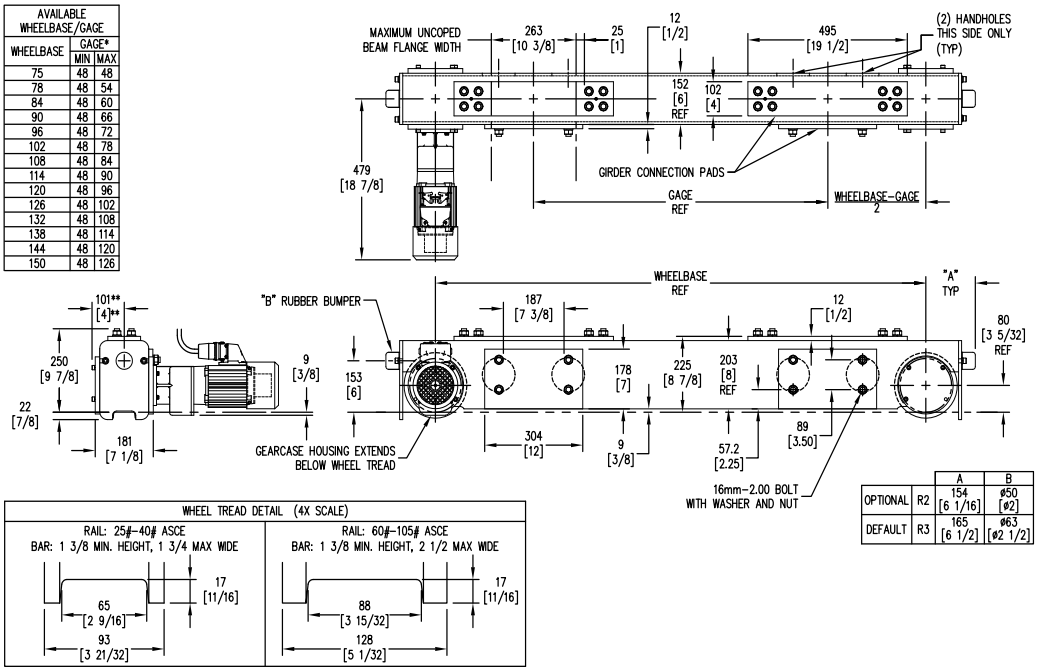
CRANE COMPONENTS

DOUBLE GIRDER TOP-RUNNING

160 [6.3"] WHEEL END TRUCK DIMENSIONS

METRIC-MM [INCH]

AVAILABLE WHEELBASE/GAGE		
WHEELBASE	GAGE*	
	MIN	MAX
75	48	48
78	48	54
84	48	60
90	48	66
96	48	72
102	48	78
108	48	84
114	48	90
120	48	96
126	48	102
132	48	108
138	48	114
144	48	120
150	48	126



		A	B
OPTIONAL	R2	154 [6 1/16]	ø50 [ø2]
DEFAULT	R3	165 [6 1/2]	ø63 [ø2 1/2]

Truck & Drive Catalog Number	A Wheel Base (ft.-in.)	Gage (ft.-in.)	Rail	Drive HP
160TD040LD*10	7 - 6	4 - 6	25 - 40#	1
160TD040LE*10	7 - 6	5 - 0		
160TD040PD*10	9 - 0	4 - 6		
160TD040PE*10	9 - 0	5 - 0		
160TD040PF*10	9 - 0	5 - 6		
160TD040PG*10	9 - 0	6 - 0		
160TD040PJ*10	9 - 0	6 - 6		
160TD040TD*10	10 - 0	4 - 6		
160TD040TE*10	10 - 0	5 - 0		
160TD040TF*10	10 - 0	5 - 6		
160TD040TG*10	10 - 0	6 - 0		
160TD040TJ*10	10 - 0	6 - 6		
160TD040TK*10	10 - 0	7 - 0		
160TD040TL*10	10 - 0	7 - 6		
160TD105LD*10	7 - 6	4 - 6	60 - 105#	
160TD105LE*10	7 - 6	5 - 0		
160TD105PD*10	9 - 0	4 - 6		
160TD105PE*10	9 - 0	5 - 0		
160TD105PF*10	9 - 0	5 - 6		
160TD105PG*10	9 - 0	6 - 0		
160TD105PJ*10	9 - 0	6 - 6		
160TD105TD*10	10 - 0	4 - 6		
160TD105TE*10	10 - 0	5 - 0		
160TD105TF*10	10 - 0	5 - 6		
160TD105TG*10	10 - 0	6 - 0		
160TD105TJ*10	10 - 0	6 - 6		
160TD105TK*10	10 - 0	7 - 0		
160TD105TL*10	10 - 0	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

**Float not included, CMAA recommends ¾" - 1"

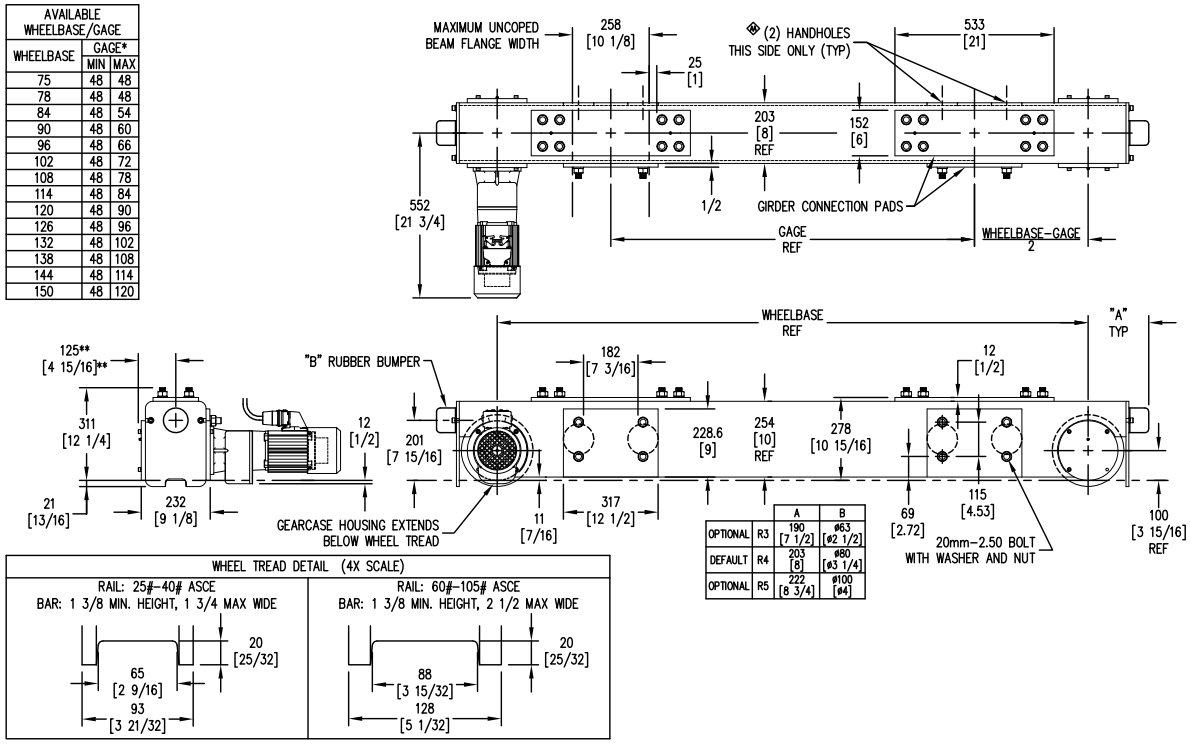
All prices are in US Funds.

CRANE COMPONENTS

DOUBLE GIRDER TOP-RUNNING

200 [7.9"] WHEEL END TRUCK DIMENSIONS
METRIC-MM [INCH]

AVAILABLE WHEELBASE/GAGE		
WHEELBASE	GAGE*	
	MIN	MAX
75	48	48
78	48	48
84	48	54
90	48	60
96	48	66
102	48	72
108	48	78
114	48	84
120	48	90
126	48	96
132	48	102
138	48	108
144	48	114
150	48	120



Truck & Drive Catalog Number	A Wheel Base (ft.-in.)	Gage (ft.-in.)	Rail	Drive HP
200TD040LE*15	7 - 6	5 - 0	25 - 40#	1.5
200TD040PE*15	9 - 0	5 - 0		
200TD040PF*15	9 - 0	5 - 6		
200TD040PG*15	9 - 0	6 - 0		
200TD040PJ*15	9 - 0	6 - 6		
200TD040TE*15	10 - 0	5 - 0		
200TD040TF*15	10 - 0	5 - 6		
200TD040TG*15	10 - 0	6 - 0		
200TD040TJ*15	10 - 0	6 - 6		
200TD040TK*15	10 - 0	7 - 0		
200TD040TL*15	10 - 0	7 - 6		
200TD105LE*15	7 - 6	5 - 0	60 - 105#	
200TD105PE*15	9 - 0	5 - 0		
200TD105PF*15	9 - 0	5 - 6		
200TD105PG*15	9 - 0	6 - 0		
200TD105PJ*15	9 - 0	6 - 6		
200TD105TE*15	10 - 0	5 - 0		
200TD105TF*15	10 - 0	5 - 6		
200TD105TG*15	10 - 0	6 - 0		
200TD105TJ*15	10 - 0	6 - 6		
200TD105TK*15	10 - 0	7 - 0		
200TD105TL*15	10 - 0	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

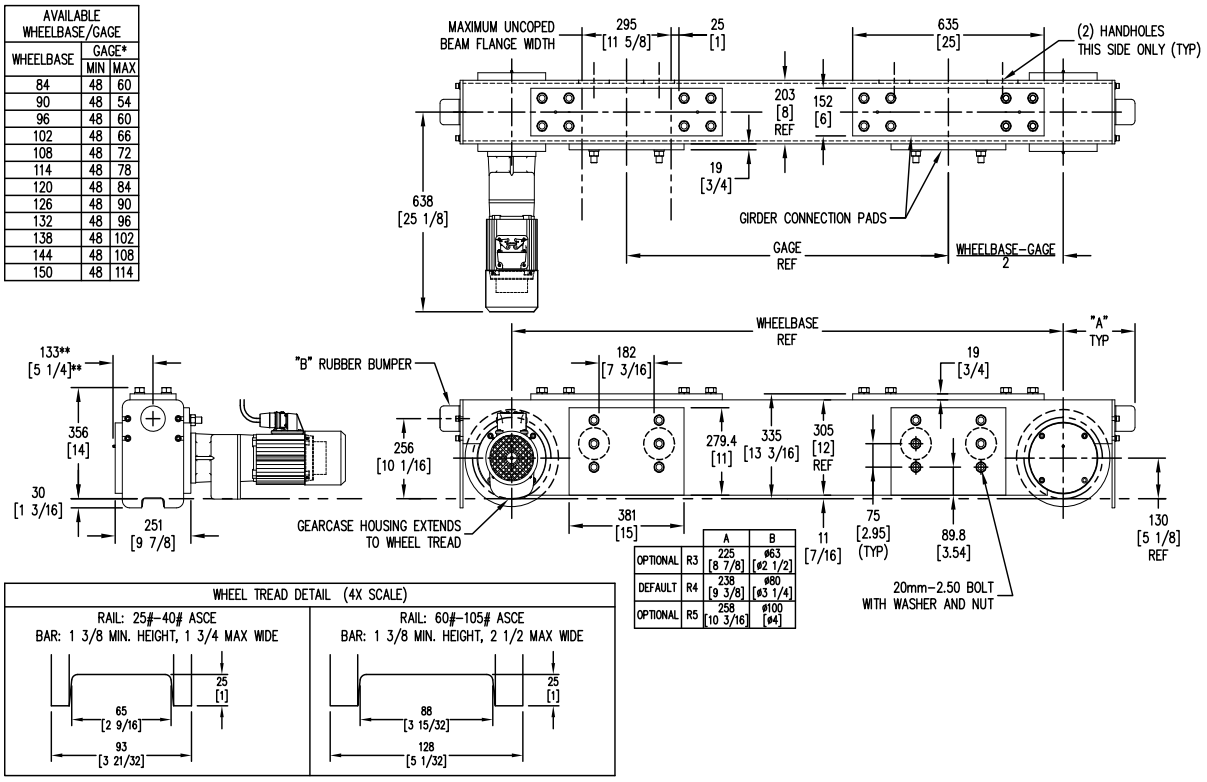
CRANE COMPONENTS

DOUBLE GIRDER TOP-RUNNING

260 [10.2"] WHEEL END TRUCK DIMENSIONS WITH 2 HP GEAR MOTOR

METRIC-MM [INCH]

AVAILABLE WHEELBASE/GAGE		
WHEELBASE	GAGE*	
	MIN	MAX
84	48	60
90	48	54
96	48	60
102	48	66
108	48	72
114	48	78
120	48	84
126	48	90
132	48	96
138	48	102
144	48	108
150	48	114



Truck & Drive Catalog Number	A Wheel Base (ft.-in.)	Gage (ft.-in.)	Rail	Drive HP
260TD040LE*20	7 - 6	5 - 0	25 - 40#	2
260TD040PE*20	9 - 0	5 - 0		
260TD040PF*20	9 - 0	5 - 6		
260TD040PG*20	9 - 0	6 - 0		
260TD040PJ*20	9 - 0	6 - 6		
260TD040TE*20	10 - 0	5 - 0		
260TD040TF*20	10 - 0	5 - 6		
260TD040TG*20	10 - 0	6 - 0		
260TD040TJ*20	10 - 0	6 - 6		
260TD040TK*20	10 - 0	7 - 0		
260TD040TL*20	10 - 0	7 - 6		
260TD105LE*20	7 - 6	5 - 0	60 - 105#	
260TD105PE*20	9 - 0	5 - 0		
260TD105PF*20	9 - 0	5 - 6		
260TD105PG*20	9 - 0	6 - 0		
260TD105PJ*20	9 - 0	6 - 6		
260TD105TE*20	10 - 0	5 - 0		
260TD105TF*20	10 - 0	5 - 6		
260TD105TG*20	10 - 0	6 - 0		
260TD105TJ*20	10 - 0	6 - 6		
260TD105TK*20	10 - 0	7 - 0		
260TD105TL*20	10 - 0	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

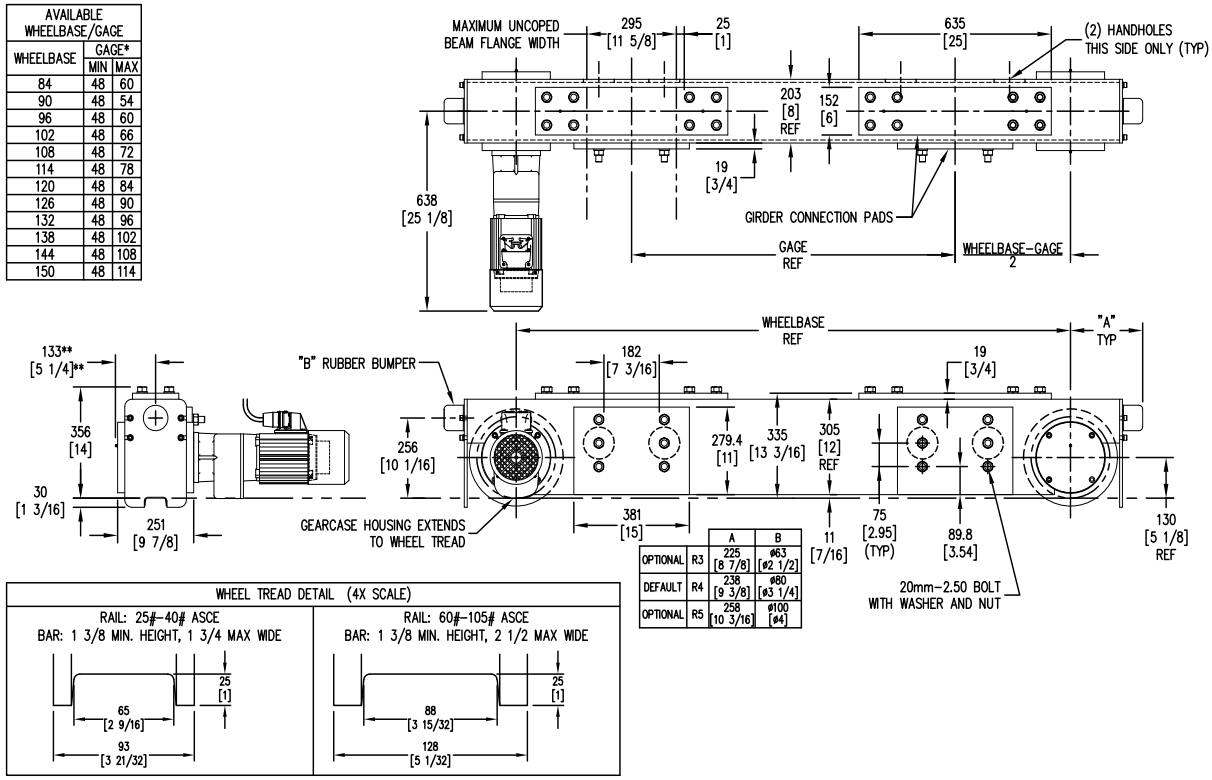
CRANE COMPONENTS

DOUBLE GIRDER TOP-RUNNING

260 [10.2"] WHEEL END TRUCK DIMENSIONS WITH 3 HP GEAR MOTOR

METRIC-MM [INCH]

AVAILABLE WHEELBASE/GAGE		
WHEELBASE	GAGE*	
	MIN	MAX
84	48	60
90	48	54
96	48	60
102	48	66
108	48	72
114	48	78
120	48	84
126	48	90
132	48	96
138	48	102
144	48	108
150	48	114



Truck & Drive Catalog Number	A Wheel Base (ft.-in.)	Gage (ft.-in.)	Rail	Drive HP
260TD040LE*30	7 - 6	5 - 0	25 - 40#	3
260TD040PE*30	9 - 0	5 - 0		
260TD040PF*30	9 - 0	5 - 6		
260TD040PG*30	9 - 0	6 - 0		
260TD040PJ*30	9 - 0	6 - 6		
260TD040TE*30	10 - 0	5 - 0		
260TD040TF*30	10 - 0	5 - 6		
260TD040TG*30	10 - 0	6 - 0		
260TD040TJ*30	10 - 0	6 - 6		
260TD040TK*30	10 - 0	7 - 0		
260TD040TL*30	10 - 0	7 - 6		
260TD105LE*30	7 - 6	5 - 0	60 - 105#	
260TD105PE*30	9 - 0	5 - 0		
260TD105PF*30	9 - 0	5 - 6		
260TD105PG*30	9 - 0	6 - 0		
260TD105PJ*30	9 - 0	6 - 6		
260TD105TE*30	10 - 0	5 - 0		
260TD105TF*30	10 - 0	5 - 6		
260TD105TG*30	10 - 0	6 - 0		
260TD105TJ*30	10 - 0	6 - 6		
260TD105TK*30	10 - 0	7 - 0		
260TD105TL*30	10 - 0	7 - 6		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

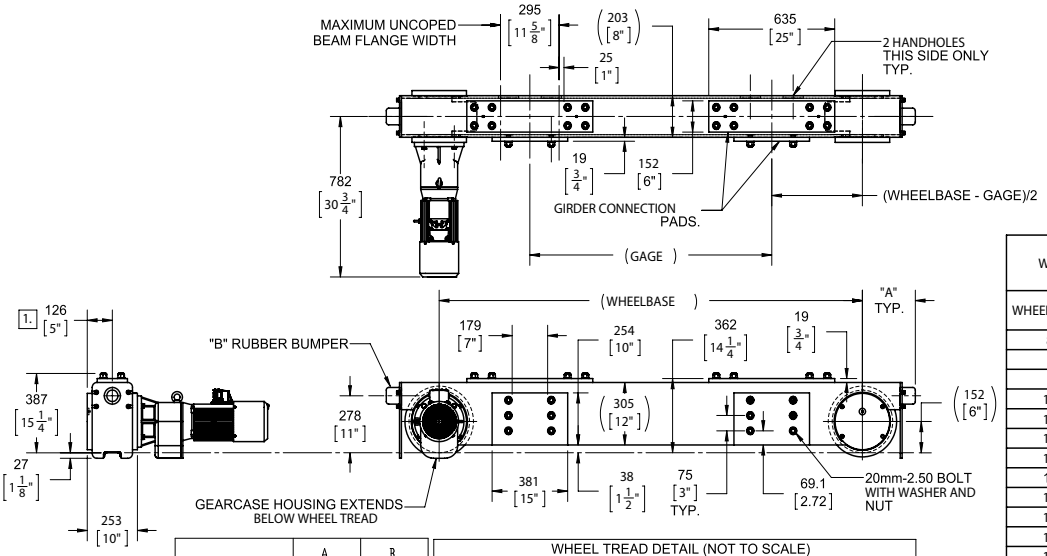
**Float not included, CMAA recommends ¾" - 1"

All prices are in US Funds.

CRANE COMPONENTS

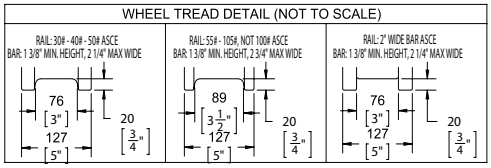
DOUBLE GIRDER TOP-RUNNING

305 MM END TRUCK ASSEMBLY CD
DOUBLE GIRDER CONNECTION
INTEGRAL ROT. AXLE END TRUCK



		A	B
DEFAULT	R4	267 (10 1/2)	ø 83 (ø 3 1/4)
OPTIONAL	R5	286 (11 1/4)	ø 102 (ø 4)
OPTIONAL	R6	306 (12 3/64)	ø 127 (ø 5)

WHEEL TREAD DETAIL (NOT TO SCALE)



AVAILABLE WHEELBASE/GAGE (INCHES)		
WHEELBASE	GAGE*	
	MIN.	MAX.
84	48	-
90	48	54
96	48	60
102	48	66
108	48	72
114	48	78
120	48	84
126	48	90
132	48	96
138	48	102
144	48	108
150	48	114

Truck & Drive Catalog Number	A Wheel Base (ft.-in.)	Gage (ft.-in.)	Rail	Drive HP
305TD050LC*50	7 - 6	48	30-50#	5
305TD050LD*50	7 - 6	54		
305TD050PC*50	9 - 0	48		
305TD050PD*50	9 - 0	54		
305TD050PE*50	9 - 0	60		
305TD050PF*50	9 - 0	66		
305TD050PG*50	9 - 0	72		
305TD050TC*50	10 - 0	48		
305TD050TD*50	10 - 0	54		
305TD050TE*50	10 - 0	60		
305TD050TF*50	10 - 0	66		
305TD050TG*50	10 - 0	72		
305TD050TJ*50	10 - 0	78		
305TD050TK*50	10 - 0	84		
305TD105LC*50	7 - 6	48	55-105#	
305TD105LD*50	7 - 6	54		
305TD105PC*50	9 - 0	48		
305TD105PD*50	9 - 0	54		
305TD105PE*50	9 - 0	60		
305TD105PF*50	9 - 0	66		
305TD105PG*50	9 - 0	72		
305TD105TC*50	10 - 0	48		
305TD105TD*50	10 - 0	54		
305TD105TE*50	10 - 0	60		
305TD105TF*50	10 - 0	66		
305TD105TG*50	10 - 0	72		
305TD105TJ*50	10 - 0	78		
305TD105TK*50	10 - 0	84		

Dimensions shown are maximum, for estimating purposes only.

*** Power Supply**

- 1 = 200/3/60
- 2 = 208/3/60
- 3 = 230/3/60
- 4 = 460/3/60
- 5 = 575/3/60
- 6 = 380/3/50

**Float not included, CMAA recommends ¾" - 1"

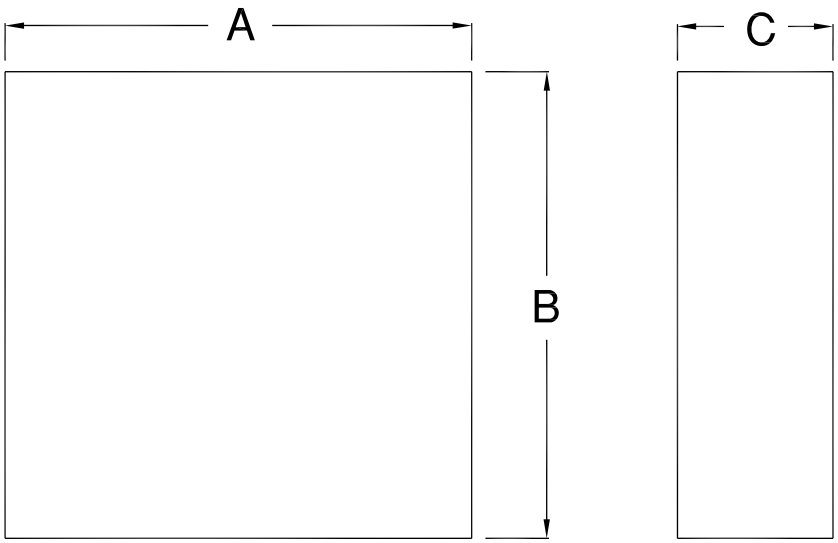
All prices are in US Funds.

BRIDGE PANEL DIMENSIONS

STANDARD (NON-PLUG & PLAY) NEMA 4/12 VARIABLE FREQUENCY CONTROL PANELS

The control panel includes mainline contactor, in-door manual disconnect, 115-volt control circuit with fused secondary, terminal strip, bridge fusing. Controls are housed in a NEMA 4/12 panel hinged horizontal at the bottom. Pushbutton is not included. The mainline contactor and disconnect are rated for 30 amps in panels through 5 hp and 60 amps in panels rated for 7.5-10 hp. The control transformers are rated for 300 VA in all panels.

NEMA 4/12 Non-Plug & Play VFD Control Panels - IMPULSE VFD							
For Max. total H.P.	Volts	Drive Size	Catalog Number	Weight	Panel Dimensions (in.)		
					A	B	C
2	200 volts	IMPULSE·G+ Mini	452314-12	80	20	16	8.5
3			452314-13				
5			452314-15	105	24	20	10.5
7.5			452313-17				
2	230 volts		452314-22	80	20	16	8.5
3			452314-23				
5			452314-25	105	24	20	10.5
7.5			452313-27				
2	380 to 460 volts		452314-42	80	20	16	8.5
3			452314-43	105	24	20	10.5
5			452314-45				
7.5			452313-47				



All prices are in US Funds.

BRIDGE BUMPER SELECTION

BUMPERS FOR SINGLE OR DOUBLE GIRDER, TOP-RUNNING, ROTATING AXLE END TRUCKS

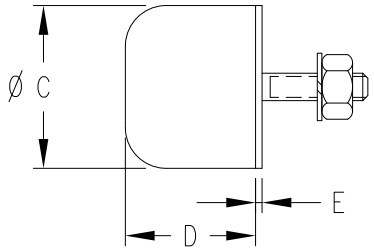
STANDARD AND OPTIONAL RUBBER BUMPER SIZES

Rotating axle trucks include a default bumper in the price for the most common applications; however, it is recommended that you verify the suitability of the default bumper for your specific application. This can be accomplished by referring to the following information on pages 73-74.

ROTATING AXLE TOP-RUNNING TRUCKS

Truck Wheel Diameter mm (in.)	Application	Default Bumper	Available Bumpers
115 (4.5)	Single Girder	R1	R1, R2, SPEC
115 (4.5)	Double Girder	R1	R1, R2, SPEC
160 (6.3)	Single Girder	R2	R1, R2, R3, SPEC
160 (6.3)	Double Girder	R3	R2, R3, SPEC
200 (7.9)	Single Girder	R3	R2, R3, R4, SPEC
200 (7.9)	Double Girder	R4	R3, R4, R5, SPEC
260 (10.2)	Single Girder	R3	R3, R4, SPEC
260 (10.2)	Double Girder	R4	R3, R4, R5, SPEC
305 (12.01)	Single Girder	R4	R4, R5, R6, SPEC
305 (12.01)	Double Girder	R4	R4, R5,R6, SPEC

BUMPER DIMENSIONS



Bumper	E.A.C.	Dia. (in.)	Length (in.)	"D"	"E"
R1	38	1.6	1.38	1.3	0.08
R2	75	2.0	1.68	1.6	
R3	145	2.5	2.12	2.0	0.12
R4	290	3.2	2.62	2.5	
R5	578	4.0	3.36	3.2	0.16
R6	1155	5.0	4.16	4.0	
R7	2310	6.4	5.24	5.0	0.24
R8	4550	8.0	6.64	6.4	

Dimensions:

"C" is the Diameter

"D" is the Bumper Length

"E" is the Base Plate

All prices are in US Funds.

BRIDGE BUMPER SELECTION

DETERMINATION OF BUMPER SIZES

When determining the size of a bumper for a crane, trolley, hoist or other moving equipment, the magnitude of the energy to be stopped, expressed in foot-pounds (ft.-lbs.) must be established.

This energy is a function of the weight of the equipment and the travel speed at which impact occurs, expressed in ft.-lbs.

The second consideration is the deceleration, expressed in ft./sec.^{2}

OSHA (spec. 1910/179), CMAA (spec. NO70, as amended) and other agencies have established MINIMUM guidelines for decelerating and stopping cranes.

They are:

FOR THE CRANE BRIDGE: OSHA

The bumpers, usually two, must be large enough to absorb the impact energy (ft.-lbs.) at 40% of full speed. Deceleration must not exceed 3.0 ft./sec.^{2} at 20% of full speed.

You may decide that this minimum protection is not sufficient for your equipment and substitute CMAA or your own higher speed values. The following steps to determine bumper size in conjunction with our energy absorption, deflection and maximum force curves will allow you to calculate bumper size.

The final force curve will show you the load imposed upon your structure to which the bumper is mounted.

S = Traveling bridge span in feet.

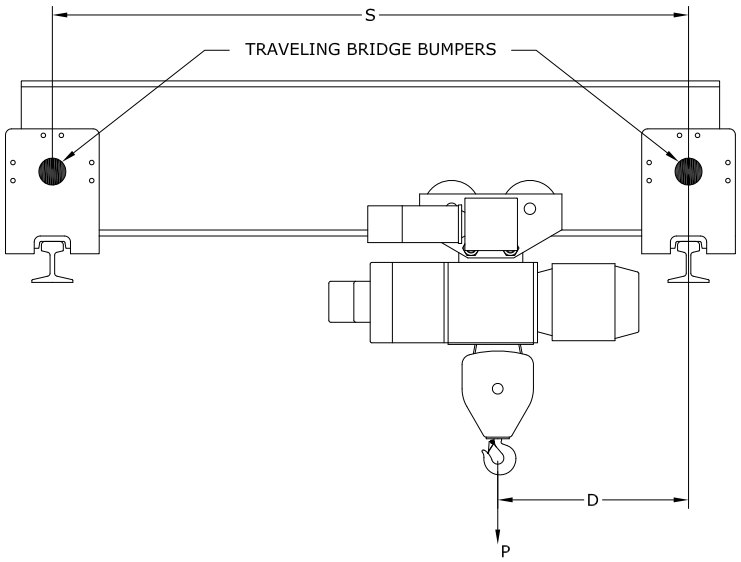
D = Load to support distance in feet.

VB = Maximum traveling bridge speed in feet per minute

WB = Bridge only weight

WT = Trolley & Hoist only weight

ENERGY CALCULATION FOR BRIDGE



DETERMINATION OF TRAVELING BRIDGE BUMPER SIZE (OSHA)

1. Determine the traveling bridge weight less load (WB), and trolley weight (WT) in pounds from manufacturer's specifications.

2. With the trolley against its stops at the end of the traveling bridge, determine the minimum distance (D) in feet from the center of gravity of the trolley to the centers of the traveling bridge bumpers. Use manufacturer's specifications if available.

3. Determine the distance (S) in feet between the traveling bridge bumpers.

4. Determine the traveling bridge maximum speed (VB) in feet per minute from manufacturer's specifications.

5. Determine the traveling bridge energy (BE) at impact at 40% of full speed by using.

$$BE\ 40\% = \frac{(0.4 \times VB)^2}{231840} \times \left[\frac{WB}{2} + WT - \frac{WT \times D}{S} \right] = \text{ft.-lbs.}$$

6. Select a bumper (from the bumper dimension chart on page 72) with an energy absorption capacity (E.A.C) equal or greater than BE calculated in Step 5.

BRIDGE BUMPER SELECTION

7. In a similar manner calculate the energy (ft.-lbs.) at 20% full speed.

$$BE\ 20\% = \frac{(0.2 \times VB)^2}{231840} \times \left[\frac{WB}{2} + WT - \frac{WT \times D}{S} \right] = \text{ft.-lbs.}$$

With your calculated energy absorption requirement (ft.-lbs.), from step 7, enter the diagram's left upper corner on a line which represents the chosen bumper size.

Interpolate and pinpoint the energy requirement "BE" on this line and draw a vertical line down until you intersect the curve in the left diagram.

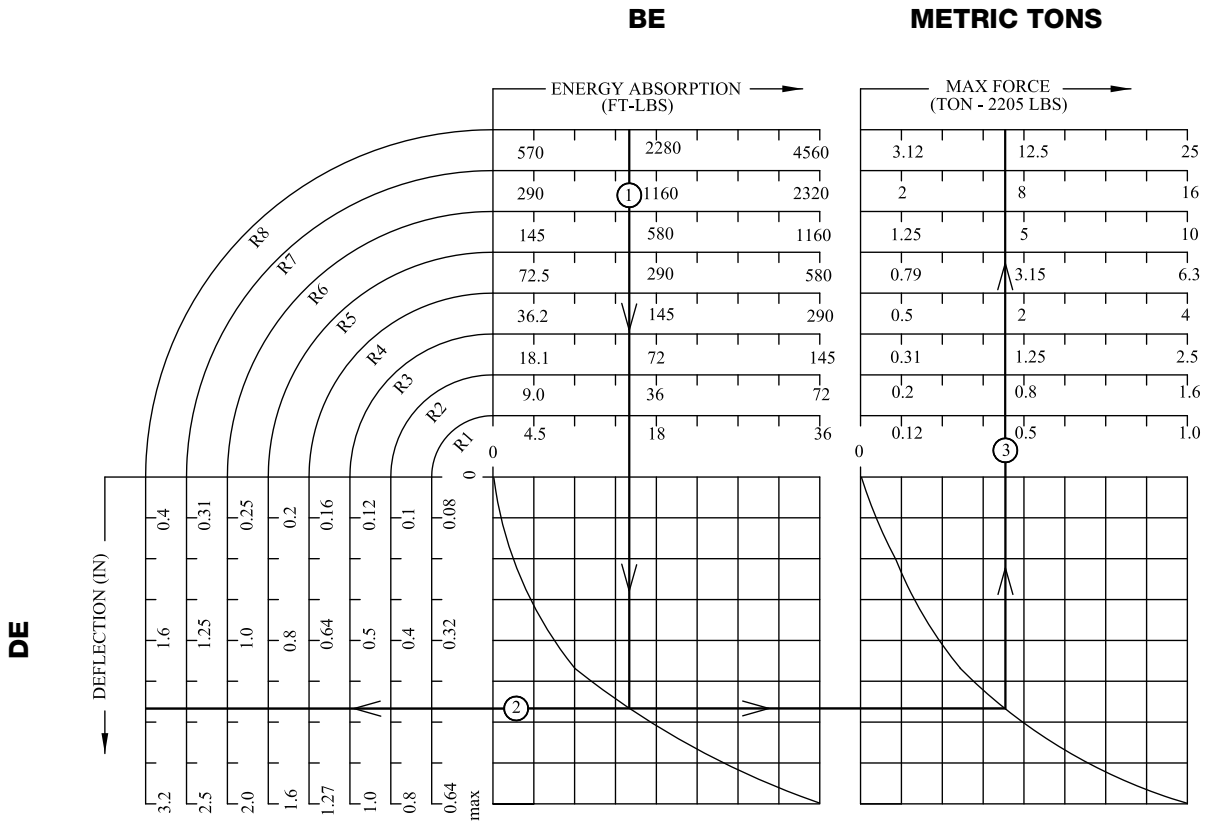
From this intersection draw a horizontal line to the left and to the right.

Where the left line intersects with the chosen bumper line the deflection (DE in inches) for your deceleration calculation is shown.

Where the line intersects with the curve in the right diagram draw another line straight up until you again intersect with your chosen bumper (size) line.

You can read your maximum force on the point of intersection (tonnes) at 20%.

Proceed: 1 - 2 - 3



DECELERATION REQUIREMENT FOR BRIDGE (OSHA)

8. Determine deceleration (a) by using:

$$a = \frac{(0.2 \times VB)^2}{600 \times DE} = \text{ft./sec.}^2$$

DE (deflection) in inches will be found on the deflection scale of the maximum force diagram for the bumper selected in step 6 and the energy absorption determined in step 7.

The result of this calculation must be 3.0 ft./sec.^{2} or less.

BRIDGE BEAM SELECTION

MOTOR DRIVEN ESTIMATED BRIDGE BEAM SELECTIONS FOR U.S. TONS AND METRIC TONS

BASED ON 40' LIFT FOR 1 TON AND 20' LIFT FOR 2 AND 3 TON WORLD SERIES & GLOBAL KING HOISTS

All data based on 25' lift hoists and dead weights as shown for 5-15 ton World Series & Global King hoists

The following girder selection charts were developed based on the following assumptions:

1. Section designation is in accordance with AISC.

2. Beam sizes listed are American wide flange (W) and channel (C) sections.

3. Use ASTM A572 grade 50 steel, first quality, free of rust and excessive mill scale

4. The bridge is designed in accordance with CMAA Specification 74, revised 2000 and is based on the following assumptions:

U.S. TONS

Rated Load (tons)	Hoist plus Trolley Dead Load (lbs.)	Trolley Wheel Diameter (in.)	Allowable Flange Width (in.)	Maximum Allowable Flange Thickness (in.)
1	625	3-3/4	4-5/8 - 14	1-1/8
2	700	3-3/4	4-5/8 - 14	1-1/8
3	700	3-3/4	4-5/8 - 14	1-1/8
5	900	4	4-5/8 - 20	1-5/8
7½	1750	6	6 - 20	1-5/8
10	1750	6	6 - 20	1-5/8
15	2830	7	8 - 20	1-3/4

METRIC TONS

Rated Load (metric tons)	Hoist plus Trolley Dead Load (kg)	Trolley Wheel Diameter (mm)	Allowable Flange Width (mm)	Maximum Allowable Flange Thickness (mm)
1	284	95	118 - 355	29
2	318	95	118 - 355	29
3	318	95	118 - 355	29
5	409	102	117 - 508	41
7½	794	152	152 - 508	41
10	794	152	152 - 508	41
15	1284	177	203 - 508	45

DLFB, DLFT, HLF and IFD are assumed to be 1.1, 1.1, .15 and .1 respectively

Assumed additional dead load (for cross conductors) is 10 lbs./ft. (4.5 kg/ft)

The bridge is assumed to be an indoor bridge

5. If any of the above assumptions are exceeded, contact the factory for beam selection.

6. No additional loading such as footwalks, platforms, cabs, machinery, etc., is allowed.

7. Beam substitution is allowed by going to an increased span, but not by going to an increased load.

All prices are in US Funds.

BRIDGE BEAM SELECTION

MOTOR DRIVEN ESTIMATED BRIDGE BEAM SELECTIONS
FOR U.S. TONS

Span Thru (ft.)	WF Section	WF Section	WF Section
1 ton Rated Load with 40' Lift Hoist			
20	W10X26	W12X26	W14X26
22	W10X26	W12X26	W10X30
24	W10X30	W12X30	W14X30
26	W10X30	W12X30	W10X33
28	W12X35	W14X38	W10X39
30	W12X35	W14X38	W12X40
32	W12X40	W14X43	W12X45
34	W12X40	W14X43	W12X45
36	W14X43	W14X48	W12X50
38	W14X48	W12X53	W14X53
40	W14X53	W16X57	W18X60
42	W14X53	W14X61	W18X65
44	W14X61	W16X67	W14X68
46	W16X67	W14X68	W14X74
48	W16X67	W18X76	W16X77
50	W16X67	vW18X76	W16X77
52	W18X76	W16X77	W18X86
54	W18X76	W18X86	W16X89
56	W18X86	W18X97	W16X100
58	W18X86	W18X97	W21X101
60	W18X97	W21X101	W24X104

Span Thru (ft.)	WF Section	WF Section	WF Section
2 ton Rated Load with 20' Lift Hoist			
20	W10X30	W12X30	W10X33
22	W14X34	W12X35	W16X36
24	W12X35	W14X38	W12X40
26	W12X40	W14X43	W12X45
28	W14X43	W12X45	W14X48
30	W14X48	W12X50	W16X50
32	W14X48	W14X53	W18X55
34	W14X53	W18X60	W14X61
36	W14X61	W18X65	W16X67
38	W16X67	W14X68	W18X71
40	W16X67	W14X74	W18X76
42	W16X67	W18X76	W16X77
44	W18X76	W16X77	W18X86
46	W18X76	W16X77	W18X86
48	W18X86	W16X89	W18X97
50	W18X86	W18X97	W16X100
52	W18X97	W21X101	W24X104
54	W18X97	W21X101	W24X104
56	W21X101	W21X111	W24X117
58	W21X111	W24X117	W21X122
60	W21X111	W24X117	W21X122

3 ton Rated Load with 20' Lift Hoist			
20	W12X35	W14X38	W12X40
22	W12X40	W14X43	W12X45
24	W14X43	W12X45	W16X45
26	W14X48	W12X50	W16X50
28	W14X48	W14X53	W18X55
30	W14X53	W18X60	W14X61
32	W14X61	W18X65	W16X67
34	W16X67	W14X68	W18X71
36	W16X67	W18X76	W16X77
38	W16X67	W18X76	W16X77
40	W18X76	W16X77	W18X86
42	W18X76	W18X86	W16X89
44	W18X86	W18X97	W16X100
46	W18X86	W18X97	W16X100
48	W18X97	W21X101	W24X104
50	W21X101	W24X104	W18X106
52	W21X101	W21X111	W24X117
54	W21X111	W24X117	W21X122
56	W21X122	W24X131	W21X132
58	W21X122	W24X131	W21X132
60	W24X131	W21X132	W24X146

All prices are in US Funds.

BRIDGE BEAM SELECTION

MOTOR DRIVEN ESTIMATED BRIDGE BEAM SELECTIONS
FOR U.S. TONS

Span Thru (ft.)	WF Section	WF Section	WF Section
5 ton Rated Load with 25' Lift Hoist			
20	W16X50	W14X53	W18X55
22	W14X53	W18X55	W16X57
24	W16X57	W18X60	W21X62
26	W18X65	W16X67	W14X68
28	W16X67	W14X68	W18X71
30	W18X76	W16X77	W14X82
32	W18X76	W16X77	W21X83
34	W18X76	W16X77	W18X86
36	W18X86	W16X89	W18X97
38	W18X86	W18X97	W16X100
40	W18X97	W21X101	W24X104
42	W18X97	W21X101	W24X104
44	W21X101	W21X111	W24X117
46	W21X111	W24X117	W21X122
48	W21X111	W24X117	W21X122
50	W21X122	W24X131	W21X132
52	W24X131	W21X132	W24X146
54	W24X146	W27X146	W21X147
56	W24X146	W27X146	W21X147
58	W24X146	W27X161	W24X162
60	W27X161	W24X162	W30X173

Span Thru (ft.)	WF Section	WF Section	WF Section
7½ ton Rated Load with 25' Lift Hoist			
20	W18X65	W21X68	W18X71
22	W18X65	W18X71	W21X73
24	W18X71	W21X73	W14X74
26	W16X77	W21X83	W24X84
28	W18X86	W16X89	W21X93
30	W18X86	W16X89	W21X93
32	W18X97	W16X100	W21X101
34	W18X97	W21X101	W24X104
36	W21X101	W24X104	W18X106
38	W21X101	W21X111	W24X117
40	W21X111	W24X117	W21X122
42	W21X122	W24X131	W21X132
44	W21X122	W24X131	W21X132
46	W21X132	W24X146	W27X146
48	W24X146	W27X146	W21X147
50	W24X146	W27X146	W27X161
52	W27X161	W24X162	W30X173
54	W27X161	W24X162	W30X173
56	W30X173	W24X176	W27X178
58	W24X176	W27X178	W30X191
60	W30X191	W24X192	W27X194

10 ton Rated Load with 25' Lift Hoist			
20	W21X83	W24X84	W16X89
22	W21X83	W16X89	W21X93
24	W16X89	W21X93	W24X94
26	W21X93	W24X94	W18X97
28	W16X100	W27X102	W24X103
30	W18X106	W21X111	W27X114
32	W18X106	W21X111	W24X117
34	W24X117	W18X119	W21X122
36	W21X122	W27X129	W18X130
38	W21X122	W24X131	W21X132
40	W24X131	W21X132	W24X146
42	W24X146	W27X146	W21X147
44	W24X146	W27X146	W27X161
46	W27X161	W24X162	W21X166
48	W27X161	W24X162	W30X173
50	W24X162	W30X173	W24X176
52	W24X176	W27X178	W30X191
54	W30X191	W24X192	W27X194
56	W30X191	W27X194	W33X201
58	W27X194	W30X211	W40X215
60	W30X211	W27X217	W33X221

15 ton Rated Load with 25' Lift Hoist			
20	W24X103	W18X119	W12X120
22	W18X119	W27X129	W18X130
24	W18X119	W27X129	W18X130
26	W27X129	W18X130	W21X132
28	W27X129	W18X130	W30X132
30	W27X129	W18X130	W18X143
32	W18X143	W24X146	W21X147
34	W24X146	W21X147	W36X160
36	W21X147	W27X161	W24X162
38	W27X161	W24X162	W21X166
40	W27X161	W24X162	W30X173
42	W24X162	W30X173	W24X176
44	W24X176	W27X178	W30X191
46	W30X191	W24X192	W27X194
48	W30X191	W27X194	W33X201
50	W27X194	W30X211	W40X215
52	W30X211	W27X217	W33X221
54	W27X217	W27X235	W30X235
56	W27X235	W30X235	W33X241
58	W30X235	W40X244	W27X258
60	W36X260	W30X261	W33X263

All prices are in US Funds.

BRIDGE BEAM SELECTION

MOTOR DRIVEN ESTIMATED BRIDGE BEAM SELECTIONS
FOR METRIC TONS

Span Thru (ft.)	WF Section	WF Section	WF Section
1 metric tons Rated Load with 25' Lift Hoist			
20	W10X26	W12X26	W8X28
22	W10X26	W12X26	W10X30
24	W10X30	W12X30	W10X33
26	W10X30	W10X33	W14X34
28	W12X35	W14X38	W10X39
30	W12X40	W16X40	W14X43
32	W12X40	W14X43	W12X45
34	W14X43	W12X45	W14X48
36	W14X48	W12X50	W12X53
38	W14X48	W14X53	W16X57
40	W14X53	W18X60	W14X61
42	W14X61	W18X65	W16X67
44	W16X67	W14X68	W18X71
46	W16X67	W14X74	W18X76
48	W16X67	W18X76	W16X77
50	W16X67	W18X76	W16X77
52	W18X76	W16X77	W18X86
54	W18X86	W16X89	W18X97
56	W18X86	W18X97	W16X100
58	W18X86	W18X97	W21X101
60	W18X97	W21X101	W24X104

Span Thru (ft.)	WF Section	WF Section	WF Section
2 metric tons Rated Load with 25' Lift Hoist			
20	W10X30	W12X30	W10X33
22	W12X35	W14X38	W10X39
24	W14X38	W12X40	W16X40
26	W12X40	W14X43	W12X45
28	W14X43	W12X45	W14X48
30	W14X48	W12X53	W14X53
32	W14X53	W16X57	W18X60
34	W14X61	W18X65	W16X67
36	W14X61	W18X65	W16X67
38	W16X67	W18X71	W21X73
40	W16X67	W18X76	W16X77
42	W16X67	W18X76	W16X77
44	W18X76	W16X77	W18X86
46	W18X76	W18X86	W16X89
48	W18X86	W18X97	W16X100
50	W18X86	W18X97	W21X101
52	W18X97	W21X101	W24X104
54	W21X101	W24X104	W18X106
56	W21X101	W21X111	W24X117
58	W21X111	W24X117	W21X122
60	W21X122	W24X131	W21X132

3 metric tons Rated Load with 25' Lift Hoist			
20	W14X38	W16X40	W14X43
22	W14X43	W12X45	W16X45
24	W14X43	W12X45	W14X48
26	W14X48	W12X53	W14X53
28	W14X53	W16X57	W18X60
30	W14X61	W18X65	W16X67
32	W16X67	W14X68	W18X71
34	W16X67	W14X74	W18X76
36	W16X67	W18X76	W16X77
38	W18X76	W16X77	W18X86
40	W18X76	W16X77	W18X86
42	W18X86	W16X89	W18X97
44	W18X86	W18X97	W16X100
46	W18X97	W21X101	W24X104
48	W18X97	W21X101	W24X104
50	W21X101	W21X111	W24X117
52	W21X111	W24X117	W21X122
54	W21X111	W24X117	W21X122
56	W21X122	W24X131	W21X132
58	W21X122	W24X131	W21X132
60	W21X132	W24X146	W27X146

All prices are in US Funds.

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING & UNDERHUNG

ESTIMATED BRIDGE BEAM SELECTIONS FOR U.S. TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

The following girder selection charts were developed based on the following assumptions:

1. Section designation is in accordance with AISC.

2. Beam sizes listed are American wide flange (W) and channel (C) sections.

3. Use ASTM A572 grade 50 steel, first quality, free of rust and excessive mill scale

4. The bridge is designed in accordance with CMAA Specification 74, revised 2000 and is based on the following assumptions:

Rated Load (tons)	Lift (ft.)	Gage (in.)	Hoist plus Trolley Dead Load (lbs.)
5	25	54	1560
	40	66	1680
7½	25	60	2315
	40	78	2535
10	25	60	2315
	40	78	2535
15	25	66	3310
	40	78	3500
20	16' - 8"	66	3600
	26' - 8"	78	3800

METRIC TONS

Rated Load (metric tons)	Lift (m)	Gage (mm)	Hoist plus Trolley Dead Load (kg)
5	7.62	1371.6	708
	12.19	1676.4	762
7.5	7.62	1524	1050
	12.19	1981.2	1150
10	7.62	1524	1050
	12.19	1981.2	1150
15	7.62	1676.4	1501
	12.19	1981.2	1588
20	5.08	1676.4	1633
	8.13	1981.2	1724

DLFB, DLFT, HLF and IFD are assumed to be 1.1, 1.1, .15 and .1 respectively

Assumed additional dead load (for cross conductors) is 10 lbs./ft. (4.5 kg/ft)

The bridge is assumed to be an indoor bridge

5. If any of the above assumptions are exceeded, contact the factory for beam selection.

6. No additional loading such as footwalks, platforms, cabs, machinery, etc., is allowed.

7. Beam substitution is allowed by going to an increased span, but not by going to an increased load.

All prices are in US Funds.

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING MOTOR DRIVEN

ESTIMATED BRIDGE BEAM SELECTIONS FOR U.S. TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
5 TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W12X35	W12X40	W16X40
22	W12X40	W14X43	W12X45
24	W12X45	W14X43	W14X48
26	W12X53	W14X48	W14X53
28	W14X48	W14X53	W16X57
30	W14X53	W14X61	W16X67
32	W14X61	W14X68	W16X67
34	W14X68	W16X67	W14X74
36	W16X67	W18X76	W14X74
38	W16X67	W16X77	W18X76
40	W16X77	W18X76	W18X86
42	W16X77	W16X89	W18X86
44	W16X89	W18X86	W18X97
46	W16X89	W18X86	W18X97
48	W16X100	W18X97	W21X101
50	W18X97	W21X101	W24X104
52	W18X106	W21X62 C12X20.7	W21X111
54	W21X111	W24X117	W24X55 C15X33.9
56	W18X119	W21X122	W24X55 C15X33.9
58	W18X119	W21X122	W24X55 C15X33.9
60	W21X132	W18X130	W24X55 C15X33.9

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
5 TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W12X40	W12X45	W14X43
22	W12X45	W14X43	W14X48
24	W14X43	W14X48	W16X50
26	W14X48	W14X53	W16X57
28	W14X61	W18X60	W18X65
30	W14X61	W16X67	W18X65
32	W14X68	W16X67	W18X71
34	W16X67	W16X77	W18X76
36	W16X67	W16X77	W18X76
38	W16X77	W18X76	W18X86
40	W16X89	W18X76	W18X86
42	W16X89	W18X86	W18X97
44	W16X100	W18X86	W18X97
46	W16X100	W18X97	W21X101
48	W18X97	W21X101	W24X104
50	W21X62 C12X20.7	W18X106	W21X111
52	W21X111	W24X117	W24X55 C15X33.9
54	W18X119	W21X122	W24X55 C15X33.9
56	W24X62 C15X33.9	W18X119	W21X122
58	W24X62 C15X33.9	W24X131	W18X130
60	W24X68 C15X33.9	W18X143	W24X146

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
7 1/2 TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W12X53	W14X43	W14X48
22	W14X48	W14X53	W18X55
24	W14X53	W16X57	W18X60
26	W14X61	W16X67	W18X65
28	W14X68	W16X67	W18X71
30	W16X67	W16X77	W18X76
32	W16X67	W16X77	W18X76
34	W16X77	W18X76	W18X86
36	W16X89	W18X76	W18X86
38	W16X89	W18X86	W18X97
40	W16X100	W18X86	W18X97
42	W18X97	W21X101	W24X104
44	W18X106	W21X101	W24X104
46	W18X106	W21X101	W21X111
48	W21X111	W24X117	W24X55 C15X33.9
50	W21X122	W18X130	W24X55 C15X33.9
52	W24X62 C15X33.9	W18X130	W24X131
54	W24X68 C15X33.9	W21X132	W24X131
56	W24X68 C15X33.9	W18X143	W24X146
58	W24X76 C15X33.9	W24X146	W27X146
60	W21X147	W27X161	W27X84 C15X33.9

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
7 1/2 TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W12X50	W14X43	W14X48
22	W14X48	W14X53	W16X57
24	W14X53	W16X57	W18X60
26	W14X61	W16X67	W18X65
28	W14X68	W16X67	W18X71
30	W16X67	W16X77	W18X76
32	W16X67	W16X77	W18X76
34	W16X77	W18X76	W18X86
36	W16X89	W18X76	W18X86
38	W16X100	W18X86	W18X97
40	W16X100	W18X86	W18X97
42	W18X97	W21X101	W24X104
44	W18X106	W21X101	W24X104
46	W21X111	W24X117	W24X55 C15X33.9
48	W21X111	W24X117	W24X55 C15X33.9
50	W24X62 C15X33.9	W21X122	W18X130
52	W24X68 C15X33.9	W21X122	W24X131
54	W24X68 C15X33.9	W21X132	W18X143
56	W24X76 C15X33.9	W24X146	W27X146
58	W21X147	W24X146	W27X84 C15X33.9
60	W21X147	W27X161	W27X84 C15X33.9

All prices are in US Funds.

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING MOTOR DRIVEN

ESTIMATED BRIDGE BEAM SELECTIONS FOR U.S. TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
10 TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W14X53	W16X57	W12X58
22	W14X61	W16X67	W18X65
24	W14X68	W16X67	W18X71
26	W16X67	W18X71	W14X74
28	W16X67	W16X77	W18X76
30	W16X77	W18X76	W18X86
32	W16X89	W18X76	W18X86
34	W16X100	W18X86	W18X97
36	W16X100	W18X86	W18X97
38	W18X97	W21X101	W24X104
40	W18X106	W21X101	W24X104
42	W18X119	W21X111	W24X117
44	W21X111	W21X122	W24X117
46	W24X68 C15X33.9	W21X122	W24X131
48	W24X68 C15X33.9	W21X122	W24X131
50	W24X76 C15X33.9	W21X132	W24X131
52	W24X146	W27X146	W27X84 C15X33.9
54	W24X146	W27X146	W27X84 C15X33.9
56	W21X147	W27X161	W27X84 C15X33.9
58	W24X162	W27X161	W27X84 C15X33.9
60	W24X162	W30X173	W27X84 C18X42.7 v v

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
10 TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W14X53	W16X57	W12X58
22	W14X61	W16X67	W18X65
24	W14X68	W16X67	W18X71
26	W16X67	W18X76	W14X74
28	W16X67	W16X77	W18X76
30	W16X77	W18X76	W18X86
32	W16X89	W18X76	W18X86
34	W16X100	W18X86	W18X97
36	W18X86	W18X97	W21X101
38	W18X97	W21X101	W24X104
40	W18X106	W21X101	W24X104
42	W18X119	W21X111	W24X117
44	W21X111	W21X122	W24X117
46	W24X68 C15X33.9	W21X122	W24X131
48	W24X68 C15X33.9	W21X122	W24X131
50	W24X76 C15X33.9	W21X132	W24X146
52	W24X146	W27X146	W27X84 C15X33.9
54	W21X147	W24X146	W27X84 C15X33.9
56	W24X162	W27X161	W27X84 C15X33.9
58	W24X162	W27X161	W27X84 C15X33.9
60	W24X176	W30X173	W27X84 C18X42.7

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
15 TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W14X68	W16X67	W21X73
22	W16X67	W16X77	W18X76
24	W16X77	W18X76	W21X83
26	W16X89	W18X76	W18X86
28	W16X100	W18X86	W18X97
30	W18X97	W21X101	W24X104
32	W18X106	W21X101	W24X104
34	W21X101	W21X111	W24X104
36	W21X111	W21X122	W24X117
38	W21X111	W21X122	W24X117
40	W21X122	W21X132	W24X131
42	W21X132	W24X131	W24X146
44	W24X146	W27X146	W27X84 C15X33.9
46	W24X146	W27X146	W27X84 C15X33.9
48	W24X146	W27X161	W27X84 C15X33.9
50	W24X162	W27X161	W27X94 C15X33.9
52	W24X162	W30X173	W30X99 C15X33.9
54	W27X178	W24X176	W30X99 C18X42.7
56	W24X176	W30X191	W30X99 C18X42.7
58	W24X192	W30X191	W30X99 C18X42.7
60	W27X194	W30X108 C18X42.7	W24X207

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
15 TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W14X68	W16X67	W21X73
22	W16X67	W16X77	W18X76
24	W16X77	W18X76	W21X83
26	W16X89	W18X76	W18X86
28	W16X100	W18X86	W18X97
30	W18X97	W21X101	W24X104
32	W18X106	W21X101	W24X104
34	W21X101	W21X111	W24X104
36	W21X111	W21X122	W24X117
38	W21X111	W21X122	W24X117
40	W21X122	W21X132	W24X131
42	W21X132	W24X131	W24X146
44	W24X146	W27X146	W27X84 C15X33.9
46	W24X146	W27X146	W27X84 C15X33.9
48	W24X146	W27X161	W27X84 C15X33.9
50	W24X162	W27X161	W27X94 C15X33.9
52	W24X162	W30X173	W30X99 C15X33.9
54	W27X178	W24X176	W30X99 C18X42.7
56	W24X176	W30X191	W30X99 C18X42.7
58	W24X192	W30X191	W30X99 C18X42.7
60	W24X207	W27X194	W30X108 C18X42.7

All prices are in US Funds.

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING MOTOR DRIVEN

ESTIMATED BRIDGE BEAM SELECTIONS FOR U.S. TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
20 TON RATED LOAD 16'-8" LIFT W.S. / G.K.			
20	W16X67	W16X77	W18X76
22	W16X77	W18X76	W18X86
24	W16X89	W18X76	W18X86
26	W18X86	W18X97	W21X101
28	W18X106	W21X101	W24X104
30	W21X101	W21X111	W24X104
32	W21X111	W21X122	W24X117
34	W21X111	W21X122	W24X117
36	W21X122	W21X132	W24X131
38	W24X131	W24X146	W27X146
40	W24X146	W27X146	W27X84 C15X33.9
42	W24X146	W27X146	W27X84 C15X33.9
44	W24X162	W27X161	W27X94 C15X33.9
46	W24X162	W27X161	W30X99 C15X33.9
48	W24X176	W30X173	W30X99 C18X42.7
50	W27X178	W24X176	W30X99 C18X42.7
52	W24X192	W30X191	W30X108 C18X42.7
54	W27X194	W30X116 C18X42.7	W24X207
56	W27X217	W30X211	W33X118 C18X42.7
58	W27X217	W30X211	W33X118 C18X45.8
60	W27X217	W33X118 C18X51.9	W30X235

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
20 TON RATED LOAD 26'-8" LIFT W.S. / G.K.			
20	W16X67	W16X77	W18X76
22	W16X77	W18X76	W18X86
24	W16X89	W18X76	W18X86
26	W18X86	W18X97	W21X101
28	W18X106	W21X101	W24X104
30	W21X101	W21X111	W24X104
32	W21X111	W21X122	W24X117
34	W21X111	W21X122	W24X131
36	W21X122	W21X132	W24X131
38	W24X131	W24X146	W27X146
40	W24X146	W27X146	W27X84 C15X33.9
42	W24X146	W27X146	W27X84 C15X33.9
44	W24X162	W27X161	W27X94 C15X33.9
46	W24X162	W27X161	W30X99 C15X33.9
48	W24X176	W30X173	W30X99 C18X42.7
50	W27X178	W24X176	W30X99 C18X42.7
52	W24X192	W30X191	W30X108 C18X42.7
54	W27X194	W30X116 C18X42.7	W24X207
56	W27X217	W30X211	W33X118 C18X42.7
58	W27X217	W33X221	W33X118 C18X45.8
60	W27X217	W33X118 C18X51.9	W30X235

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING MOTOR DRIVEN

ESTIMATED BRIDGE BEAM SELECTIONS FOR METRIC TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
5 METRIC TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W12X40	W14X43	W12X45
22	W14X43	W12X45	W14X48
24	W14X43	W14X48	W16X50
26	W14X48	W14X53	W16X57
28	W14X53	W18X60	W14X61
30	W14X61	W18X65	W16X67
32	W16X67	W14X68	W18X71
34	W16X67	W14X74	W18X76
36	W16X67	W18X76	W16X77
38	W18X76	W16X77	W18X86
40	W18X76	W16X77	W18X86
42	W18X86	W16X89	W18X97
44	W18X86	W16X89	W18X97
46	W18X97	W16X100	W21X101
48	W18X97	W21X101	W24X104
50	W21X101	W18X106	W21X111
52	W18X106	W21X111	W24X117
54	W18X119	W21X122	W18X130
56	W18X119	W21X122	W18X130
58	W18X130	W24X131	W21X132
60	W18X130	W21X132	W18X143 v

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
5 METRIC TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W12X40	W14X43	W12X45
22	W14X43	W14X48	W12X50
24	W14X48	W14X53	W18X55
26	W14X53	W16X57	W18X60
28	W14X61	W18X65	W16X67
30	W16X67	W14X68	W18X71
32	W16X67	W14X74	W18X76
34	W16X67	W18X76	W16X77
36	W18X76	W16X77	W18X86
38	W18X76	W16X77	W18X86
40	W18X86	W16X89	W18X97
42	W18X86	W18X97	W16X100
44	W18X97	W16X100	W21X101
46	W18X97	W21X101	W24X104
48	W21X101	W18X106	W21X111
50	W18X106	W21X111	W24X117
52	W24X117	W18X119	W21X122
54	W21X122	W18X130	W24X131
56	W18X130	W24X131	W21X132
58	W21X132	W18X143	W24X146
60	W18X143	W24X146	W27X146

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
7-1/2 METRIC TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W14X43	W14X48	W12X53
22	W14X48	W14X53	W16X57
24	W18X60	W14X61	W18X65
26	W16X67	W14X68	W18X71
28	W16X67	W14X74	W18X76
30	W16X67	W18X76	W16X77
32	W18X76	W16X77	W18X86
34	W18X76	W18X86	W16X89
36	W18X86	W16X89	W18X97
38	W18X86	W18X97	W16X100
40	W18X97	W21X101	W24X104
42	W18X97	W21X101	W24X104
44	W21X101	W18X106	W21X111
46	W21X111	W24X117	W18X119
48	W21X122	W18X130	W24X131
50	W21X122	W18X130	W24X131
52	W24X131	W21X132	W18X143
54	W21X132	W24X146	W27X146
56	W24X146	W27X146	W21X147
58	W21X147	W27X161	W24X162
60	W27X161	W24X162	W21X166

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
7-1/2 METRIC TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W14X43	W14X48	W12X53
22	W14X48	W14X53	W16X57
24	W14X61	W18X65	W16X67
26	W16X67	W14X68	W18X71
28	W16X67	W14X74	W18X76
30	W16X67	W18X76	W16X77
32	W18X76	W16X77	W18X86
34	W18X76	W18X86	W16X89
36	W18X86	W16X89	W18X97
38	W18X86	W18X97	W16X100
40	W18X97	W21X101	W24X104
42	W21X101	W24X104	W18X106
44	W21X101	W21X111	W24X117
46	W21X111	W24X117	W18X119
48	W21X122	W18X130	W24X131
50	W21X122	W24X131	W21X132
52	W24X131	W21X132	W18X143
54	W21X132	W24X146	W27X146
56	W24X146	W27X146	W21X147
58	W21X147	W27X161	W24X162
60	W27X161	W24X162	W21X166

All prices are in US Funds.

BRIDGE BEAM SELECTION

DOUBLE GIRDER TOP-RUNNING MOTOR DRIVEN

ESTIMATED BRIDGE BEAM SELECTIONS FOR METRIC TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
10 METRIC TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W14X53	W16X57	W18X60
22	W14X61	W18X65	W16X67
24	W16X67	W14X68	W18X71
26	W16X67	W18X76	W16X77
28	W18X76	W16X77	W21X83
30	W18X76	W18X86	W16X89
32	W18X86	W16X89	W18X97
34	W18X86	W18X97	W16X100
36	W18X97	W21X101	W24X104
38	W21X101	W24X104	W18X106
40	W21X101	W21X111	W24X117
42	W21X111	W24X117	W21X122
44	W21X122	W18X130	W24X131
46	W21X122	W24X131	W21X132
48	W24X131	W21X132	W24X146
50	W21X132	W24X146	W27X146
52	W24X146	W27X146	W21X147
54	W27X161	W24X162	W21X166
56	W27X161	W24X162	W21X166
58	W24X162	W21X166	W30X173
60	W24X176	W27X178	W21X182

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
10 METRIC TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W14X53	W16X57	W18X60
22	W14X61	W18X65	W16X67
24	W16X67	W18X71	W14X74
26	W16X67	W18X76	W16X77
28	W18X76	W16X77	W18X86
30	W18X76	W18X86	W16X89
32	W18X86	W18X97	W16X100
34	W18X86	W18X97	W16X100
36	W18X97	W21X101	W24X104
38	W21X101	W24X104	W18X106
40	W21X101	W21X111	W24X117
42	W21X111	W24X117	W21X122
44	W21X122	W24X131	W21X132
46	W21X122	W24X131	W21X132
48	W24X131	W21X132	W24X146
50	W24X146	W27X146	W21X147
52	W24X146	W27X146	W21X147
54	W27X161	W24X162	W21X166
56	W27X161	W24X162	W21X166
58	W24X162	W30X173	W24X176
60	W24X176	W27X178	W21X182

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
15 METRIC TON RATED LOAD 25'-0" LIFT W.S./G.K.			
20	W16X67	W18X71	W14X74
22	W16X67	W18X76	W16X77
24	W18X76	W16X77	W18X86
26	W18X76	W18X86	W16X89
28	W18X86	W18X97	W16X100
30	W18X97	W21X101	W24X104
32	W21X101	W24X104	W21X111
34	W21X101	W21X111	W24X117
36	W21X111	W24X117	W21X122
38	W21X122	W24X131	W21X132
40	W24X131	W21X132	W24X146
42	W24X146	W27X146	W21X147
44	W24X146	W27X146	W27X161
46	W24X146	W27X161	W24X162
48	W27X161	W24X162	W30X173
50	W24X162	W30X173	W24X176
52	W24X176	W27X178	W30X191
54	W24X176	W30X191	W24X192
56	W30X191	W24X192	W27X194
58	W27X194	W24X207	W30X211
60	W30X211	W27X217	W33X221

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
15 METRIC TON RATED LOAD 40'-0" LIFT W.S./G.K.			
20	W16X67	W18X71	W14X74
22	W16X67	W18X76	W16X77
24	W18X76	W16X77	W18X86
26	W18X76	W18X86	W16X89
28	W18X86	W18X97	W16X100
30	W18X97	W21X101	W24X104
32	W21X101	W24X104	W21X111
34	W21X101	W21X111	W24X117
36	W21X111	W24X117	W21X122
38	W21X122	W24X131	W21X132
40	W24X131	W21X132	W24X146
42	W24X146	W27X146	W21X147
44	W24X146	W27X146	W27X161
46	W24X146	W27X161	W24X162
48	W27X161	W24X162	W30X173
50	W24X162	W30X173	W24X176
52	W24X176	W27X178	W30X191
54	W24X176	W30X191	W24X192
56	W30X191	W24X192	W27X194
58	W27X194	W24X207	W30X211
60	W30X211	W27X217	W33X221

All prices are in US Funds.

BRIDGE BEAM SELECTION

ESTIMATED BRIDGE BEAM SELECTIONS FOR METRIC TONS

ALL DATA BASED ON 25' & 40' LIFT WORLD SERIES & GLOBAL KING HOISTS

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
20 METRIC TON RATED LOAD 16'-8" LIFT W.S. / G.K.			
20	W18X76	W16X77	W21X83
22	W18X76	W18X86	W16X89
24	W18X86	W18X97	W16X100
26	W18X97	W21X101	W24X104
28	W21X101	W24X104	W21X111
30	W21X101	W21X111	W24X117
32	W21X111	W24X117	W21X122
34	W21X122	W24X131	W21X132
36	W24X131	W21X132	W24X146
38	W24X146	W27X146	W21X147
40	W24X146	W27X146	W27X161
42	W27X161	W24X162	W30X173
44	W27X161	W24X162	W30X173
46	W30X173	W24X176	W27X178
48	W24X176	W27X178	W30X191
50	W30X191	W24X192	W27X194
52	W27X194	W33X201	W24X207
54	W30X211	W40X215	W27X217
56	W30X211	W27X217	W33X221
58	W27X217	W36X230	W27X235
60	W27X235	W30X235	W33X241

Span thru (ft.)	(50 KSI) W	(50 KSI) W	(50 KSI) W
20 METRIC TON RATED LOAD 26'-8" LIFT W.S. / G.K.			
20	W18X76	W16X77	W21X83
22	W18X76	W18X86	W16X89
24	W18X86	W18X97	W16X100
26	W18X97	W21X101	W24X104
28	W21X101	W24X104	W21X111
30	W21X101	W21X111	W24X117
32	W21X111	W24X117	W21X122
34	W21X122	W24X131	W21X132
36	W24X131	W21X132	W24X146
38	W24X146	W27X146	W21X147
40	W24X146	W27X146	W27X161
42	W27X161	W24X162	W30X173
44	W27X161	W24X162	W30X173
46	W30X173	W24X176	W27X178
48	W24X176	W27X178	W30X191
50	W30X191	W24X192	W27X194
52	W27X194	W33X201	W24X207
54	W30X211	W40X215	W27X217
56	W30X211	W27X217	W33X221
58	W27X217	W36X230	W27X235
60	W27X235	W30X235	W33X241

All prices are in US Funds.

ROTATING AXLE CRANE KITS & COMPONENTS

SECTION CONTENTS:

TOP-RUNNING ROTATING AXLE CRANE KITS & COMPONENTS

COLUMBUS McKINNON CORPORATION

SPECIFICATIONS

SINGLE & DOUBLE GIRDER TOP-RUNNING ROTATING AXLE CRANE KITS

CAPACITY:	Determined upon application
SERVICE CLASS:	Meets the duty requirements of CMAA Class D Service
OPERATION:	Indoor
WHEELS:	Forged Steel hardened to 400 - 450 BHN
BUMPERS:	Rubber Conical type
TRAVERSE GEARING:	Helical, heat-treated alloy steel
TRAVERSE BRAKE:	50% torque, AC disc type
TRAVERSE MOTOR:	NEMA design 30 minute TENV with Class F insulation and TAS.
CONTROL:	Variable frequency type
BEARINGS:	Spherical roller bearings with grease fittings

CRANE KITS

9" ROTATING AXLE END TRUCK

VARIABLE FREQUENCY CONTROL †

Kit Number	Wheel Base	Max. Span	Traverse Speed/List Price			Weight (lbs.)	HP Each Motor	Max. Durability Wheel Load		
			100 fpm	120 fpm	150 fpm			ASCE 20#	ASCE 40#	ASCE 60 & 70# ARA-B 100#
9R4.5/1.0-V-*	4' - 6"	31' - 6"	**$25,946.00**	**$25,946.00**	**$26,135.00**	1264	1	11300	16800	23600
9R4.5/1.5-V-*			**$26,414.00**	**$26,398.00**	**$26,591.00**	1297	1½			
9R4.5/2.0-V-*			**$27,130.00**	**$27,108.00**	**$27,300.00**	1311	2			
9R6.0/1.0-V-*	6' - 0"	42' - 0"	**$26,442.00**	**$26,448.00**	**$26,698.00**	1411	1			
9R6.0/1.5-V-*			**$26,887.00**	**$26,901.00**	**$27,148.00**	1444	1½			
9R6.0/2.0-V-*			**$27,601.00**	**$27,609.00**	**$27,862.00**	1458	2			
9R7.5/1.0-V-*	7' - 6"	52' - 6"	**$26,947.00**	**$27,037.00**	**$27,253.00**	1558	1			
9R7.5/1.5-V-*			**$27,397.00**	**$27,490.00**	**$27,702.00**	1591	1½			
9R7.5/2.0-V-*			**$28,112.00**	**$28,204.00**	**$28,417.00**	1605	2			
9R8.0/1.0-V-*	8' - 0"	56' - 0"	**$27,108.00**	**$27,252.00**	**$27,441.00**	1607	1			
9R8.0/1.5-V-*			**$27,558.00**	**$27,697.00**	**$27,893.00**	1640	1½			
9R8.0/2.0-V-*			**$28,275.00**	**$28,410.00**	**$28,598.00**	1654	2			
9R9.0/1.0-V-*	9' - 0"	63' - 0"	**$27,434.00**	**$27,670.00**	**$27,811.00**	1705	1			
9R9.0/1.5-V-*			**$27,878.00**	**$28,121.00**	**$28,260.00**	1738	1½			
9R9.0/2.0-V-*			**$28,591.00**	**$28,829.00**	**$28,968.00**	1752	2			
9R10.0/1.0-V-*	10' - 0"	70' - 0"	**$27,761.00**	**$28,092.00**	**$28,177.00**	1803	1			
9R10.0/1.5-V-*			**$28,209.00**	**$28,540.00**	**$28,631.00**	1836	1½			
9R10.0/2.0-V-*			**$28,920.00**	**$29,257.00**	**$29,345.00**	1850	2			

Kit Consists of: 2 trucks with bumpers - flat tread wheels are standard
1 NEMA 4/12 panel with disconnect
2 Drives, each with Motor, AC disc brake and hollow shaft reducer*

Specify: Traverse Speed
Rail Size
Voltage

Note: Use Yale® Shaw-Box® Crane Component Specifications catalog to calculate the correct bumper size for your application or call factory.

**When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

† For 575 volt applications - See Rotating Axle Options Section.

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

OPTIONS
END TRUCKS

Wheel bases in 6" increments are also available from a minimum of 3' - 6" to a maximum of 14' - 6".

Add for wheel bases in-between cataloged wheel bases in 6" increments.....add **$173** per 6"

Add for wheel bases in-between cataloged wheel bases in other than 6" increments..... add **$734**

For pricing on wheel bases other than those listed contact factory.

Note: Drives shipped assembled but not mounted to trucks.

All prices are in US Funds.

CRANE KITS

12" ROTATING AXLE END TRUCK

VARIABLE FREQUENCY CONTROL †

Kit Number	Wheel Base	Max. Span	Traverse Speed/List Price 100 fpm	150 fpm	200 fpm	Weight (lbs.)	HP Each Motor	Max. Durability Wheel Load ASCE 40#	ASCE 60# & 70# ARA-B 100#	ASCE 80# & 85# ARA-A 100# BETH 104# USS 105#
12R9.0/1.5-V-*	9' - 0"	63' - 0"	**$36,753.00**	N/A	N/A	2682	1½	22400	31400	33700
12R9.0/2.0-V-*			**$37,260.00**	**$38,021.00**	**$38,021.00**	2625	2			
12R9.0/3.0-V-*			**$40,821.00**	**$41,826.00**	**$41,826.00**	2828	3			
12R9.0/5.0-V-*			N/A	**$43,461.00**	**$43,461.00**	2982	5			
12R10.0/1.5-V-*	10' - 0"	70' - 0"	**$37,093.00**	N/A	N/A	2804	1½			
12R10.0/2.0-V-*			**$37,608.00**	**$38,356.00**	**$38,356.00**	2750	2			
12R10.0/3.0-V-*			**$41,813.00**	**$42,163.00**	**$42,163.00**	2950	3			
12R10.0/5.0-V-*			N/A	**$43,799.00**	**$43,799.00**	3104	5			
12R11.0/1.5-V-*	11' - 0"	77' - 0"	**$37,427.00**	N/A	N/A	2926	1½			
12R11.0/2.0-V-*			**$37,935.00**	**$38,697.00**	**$38,697.00**	2872	2			
12R11.0/3.0-V-*			**$42,529.00**	**$42,849.00**	**$42,849.00**	3072	3			
12R11.0/5.0-V-*			N/A	**$44,123.00**	**$44,123.00**	3226	5			
12R12.0/1.5-V-*	12' - 0"	84' - 0"	**$37,758.00**	N/A	N/A	3048	1½			
12R12.0/2.0-V-*			**$38,274.00**	**$39,031.00**	**$39,031.00**	2994	2			
12R12.0/3.0-V-*			**$42,869.00**	**$43,186.00**	**$43,186.00**	3194	3			
12R12.0/5.0-V-*			N/A	**$44,470.00**	**$44,470.00**	3348	5			
12R13.0/1.5-V-*	13' - 0"	91' - 0"	**$38,091.00**	N/A	N/A	3170	1½			
12R13.0/2.0-V-*			**$38,609.00**	**$39,374.00**	**$39,374.00**	3116	2			
12R13.0/3.0-V-*			**$43,296.00**	**$43,616.00**	**$43,616.00**	3316	3			
12R13.0/5.0-V-*			N/A	**$44,786.00**	**$44,786.00**	3470	5			
12R14.0/1.5-V-*	14' - 0"	98' - 0"	**$38,428.00**	N/A	N/A	3292	1½			
12R14.0/2.0-V-*			**$38,953.00**	**$39,709.00**	**$39,709.00**	3238	2			
12R14.0/3.0-V-*			**$43,715.00**	**$44,043.00**	**$44,043.00**	3438	3			
12R14.0/5.0-V-*			N/A	**$45,148.00**	**$45,148.00**	3592	5			

Kit Consists of: 2 trucks with bumpers - flat tread wheels are standard
1 NEMA 4/12 panel with disconnect
2 Drives, each with Motor, AC disc brake and hollow shaft reducer*

Specify: Traverse Speed
Rail Size
Voltage

Note: Use Yale® Shaw-Box® Crane Component Specifications catalog to calculate the correct bumper size for your application or call factory.

**When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

† For 575 volt applications - See Rotating Axle Options Section.

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

OPTIONS
END TRUCKS

Wheel bases in 6" increments are also available from a minimum of 3' - 6" to a maximum of 18' - 0".

Add for wheel bases in-between cataloged wheel bases in 6" increments.....add **$173** per 6"

Add for wheel bases in-between cataloged wheel bases in other than 6" increments..... add **$734**

For pricing on wheel bases other than those listed contact factory.

Note: Drives shipped assembled but not mounted to trucks.

All prices are in US Funds.

CRANE KITS

15" ROTATING AXLE END TRUCK

VARIABLE FREQUENCY CONTROL †

Kit Number	Wheel Base	Max. Span	Traverse Speed/List Price				Weight (lbs.)	HP Each Motor	Max. Durability Wheel Load		
			100 fpm	150 fpm	200 fpm	250 fpm			ASCE 40#	ASCE 60# & 70# ARA-B 100#	ASCE 80# & 85# ARA-A 100# BETH 104# USS 105#
15R9.0/3.0-V-*	9' - 0"	63' - 0"	**$52,923.00**	N/A	N/A	N/A	4024	3	28000	39300	42100
15R9.0/5.0-V-*			**$54,234.00**	**$54,476.00**	**$54,606.00**	N/A	4270	5			
15R9.0/7.5-V-*			N/A	**$65,438.00**	**$65,825.00**	**$65,593.00**	4186	7½			
15R10.0/3.0-V-*	10' - 0"	70' - 0"	**$53,417.00**	N/A	N/A	N/A	4173	3			
15R10.0/5.0-V-*			**$54,719.00**	**$54,964.00**	**$55,102.00**	N/A	4419	5			
15R10.0/7.5-V*			N/A	**$65,940.00**	**$66,336.00**	**$66,112.00**	4335	7½			
15R11.0/3.0-V-*	11' - 0"	77' - 0"	**$53,903.00**	N/A	N/A	N/A	4322	3			
15R11.0/5.0-V-*			**$55,209.00**	**$55,450.00**	**$55,600.00**	N/A	4568	5			
15R11.0/7.5-V-*			N/A	**$66,446.00**	**$66,846.00**	**$66,631.00**	4484	7½			
15R12.0/3.0-V-*	12' - 0"	84' - 0"	**$54,390.00**	N/A	N/A	N/A	4471	3			
15R12.0/5.0-V-*			**$55,693.00**	**$55,932.00**	**$56,090.00**	N/A	4717	5			
15R12.0/7.5-V-*			N/A	**$66,943.00**	**$67,353.00**	**$67,149.00**	4633	7½			
15R13.0/3.0-V-*	13' - 0"	91' - 0"	**$54,872.00**	N/A	N/A	N/A	4620	3			
15R13.0/5.0-V-*			**$56,179.00**	**$56,424.00**	**$56,678.00**	N/A	4866	5			
15R13.0/7.5-V-*			N/A	**$67,445.00**	**$67,951.00**	**$67,671.00**	4782	7½			
15R14.0/3.0-V-*	14' - 0"	98' - 0"	**$55,363.00**	N/A	N/A	N/A	4769	3			
15R14.0/5.0-V-*			**$56,669.00**	**$56,909.00**	**$57,256.00**	N/A	5015	5			
15R14.0/7.5-V-*			N/A	**$67,949.00**	**$68,545.00**	**$68,278.00**	4931	7½			

Kit Consists of: 2 trucks with bumpers - flat tread wheels are standard
1 NEMA 4/12 panel with disconnect
2 Drives, each with Motor, AC disc brake and hollow shaft reducer*

Specify: Traverse Speed
Rail Size
Voltage

Note: Use Yale® Shaw-Box® Crane Component Specifications catalog to calculate the correct bumper size for your application or call factory.

**When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

† For 575 volt applications - See Rotating Axle Options Section.

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

OPTIONS
END TRUCKS

Wheel bases in 6" increments are also available from a minimum of 3' - 6" to a maximum of 18' - 0".

Add for wheel bases in-between cataloged wheel bases in 6" increments.....add **$268** per 6"

Add for wheel bases in-between cataloged wheel bases in other than 6" increments..... add **$826**

For pricing on wheel bases other than those listed contact factory.

Note: Drives shipped assembled but not mounted to trucks.

All prices are in US Funds.

CRANE KITS

18" ROTATING AXLE END TRUCK

VARIABLE FREQUENCY CONTROL †

Kit Number	Wheel Base	Max. Span	Traverse Speed/List Price 100 fpm	150 fpm	200 fpm	250 fpm	Weight (lbs.)	HP Each Motor	Max. Durability Wheel Load ASCE 40#	ASCE 60# & 70# ARA-B 100#	ASCE 80# & 85# ARA-A 100# BETH 104# USS 105#
18R9.0/5.0-V-*	9' - 0"	63' - 0"	**$85,930.00**	N/A	N/A	N/A	6181	5	33700	47200	50500
18R9.0/7.5-V-*			**$101,793.00**	**$94,650.00**	**$94,650.00**	N/A	6311	7½			
18R9.0/10.0-V-*			N/A	**$105,314.00**	**$100,449.00**	**$101,265.00**	5931	10			
18R10.0/5.0-V-*	10' - 0"	70' - 0"	**$87,604.00**	N/A	N/A	N/A	6385	5			
18R10.0/7.5-V-*			**$103,513.00**	**$96,261.00**	**$96,261.00**	N/A	6515	7½			
18R10.0/10.0-V-*			N/A	**$106,946.00**	**$102,085.00**	**$102,739.00**	6135	10			
18R11.0/5.0-V-*	11' - 0"	77' - 0"	**$89,293.00**	N/A	N/A	N/A	6589	5			
18R11.0/7.5-V-*			**$105,249.00**	**$98,101.00**	**$98,101.00**	N/A	6719	7½			
18R11.0/10.0-V-*			N/A	**$108,906.00**	**$104,044.00**	**$104,981.00**	6339	10			
18R12.0/5.0-V-*	12' - 0"	84' - 0"	**$90,970.00**	N/A	N/A	N/A	6813	5			
18R12.0/7.5-V-*			**$106,974.00**	**$100,043.00**	**$100,043.00**	N/A	6923	7½			
18R12.0/10.0-V-*			N/A	**$110,873.00**	**$106,008.00**	**$107,224.00**	6543	10			
18R13.0/5.0-V-*	13' - 0"	91' - 0"	**$92,637.00**	N/A	N/A	N/A	5767	5			
18R13.0/7.5-V-*			**$108,693.00**	**$101,929.00**	**$101,929.00**	N/A	7127	7½			
18R13.0/10.0-V-*			N/A	**$112,591.00**	**$107,730.00**	**$108,932.00**	6747	10			
18R14.0/5.0-V-*	14' - 0"	98' - 0"	**$94,305.00**	N/A	N/A	N/A	5971	5			
18R14.0/7.5-V-*			**$110,409.00**	**$103,650.00**	**$103,650.00**	N/A	7331	7½			
18R14.0/10.0-V-*			N/A	**$114,303.00**	**$109,443.00**	**$110,655.00**	6951	10			

Kit Consists of: 2 trucks with bumpers - flat tread wheels are standard
1 NEMA 4/12 panel with disconnect
2 Drives, each with Motor, AC disc brake and hollow shaft reducer*

Specify: Traverse Speed
Rail Size
Voltage

Note: Use Yale® Shaw-Box® Crane Component Specifications catalog to calculate the correct bumper size for your application or call factory.

**When selecting bridge motor hp shown on this page, motors are sized based on 66% of the total calculated hp required for contactor or variable frequency drive (VFD) control. However, if the reverse plugging feature of the VFD is to be used, motors should be sized to 75% of the total calculated hp required to get full reverse plugging performance.

† For 575 volt applications - See Rotating Axle Options Section.

Watch 230v amp draws - 1-3 hp panels have 30 amp disconnect, 5-10 hp panels have 60 amp.

OPTIONS
END TRUCKS

Wheel bases in 6" increments are also available from a minimum of 3' - 6" to a maximum of 18' - 0".

Add for wheel bases in-between cataloged wheel bases in 6" increments.....add **$883** per 6"

Add for wheel bases in-between cataloged wheel bases in other than 6" increments..... add **$1,474**

For pricing on wheel bases other than those listed contact factory.

Note: Drives shipped assembled but not mounted to trucks.

All prices are in US Funds.

SPECIAL INFORMATION

ROTATING AXLE, TOP-RUNNING TUBE-FRAME END TRUCK
CATALOG NUMBERING SYSTEM
PART NUMBER TO INCLUDE END TRUCK & DRIVE
(THIS PART NUMBER SYSTEM IS USED IN COMPASS)

The following end truck catalog numbering system makes ordering a pair of end trucks for a specific application easier and ensures that you will receive exactly what you ordered.

Example - Typical Double Girder Top-Running Truck

Catalog Number as Cataloged - Less Options

Example:
TRRA12D096E050-450R4

TRRA12	D	96	E	050	-	4	50	R4
E	N	D	T	R	U	C	K	S

E Type & Wheel Diameter

TRRA9	9"
TRRA12	12"
TRRA15	15"
TRRA18	18"

N Application

S	Single Girder
D	Double Girder
BD	Bogie Double Girder

D Wheelbase - Inches (See Chart)

042 - 174	for TRRA9
042 - 216	for TRRA12/15/18

T Gage Code (See Chart)

C thru R	Dbl. Grd. TRRA9
C thru Y	Dbl. Grd. TRRA12/15/18
-	Single Girder

R Maximum Rail

030	20#-30# ASCE (9" TD)
070	40#-70# ASCE (9" TD)
050	30#-50# ASCE (12"/15"/18" TD)
105	55#-105# ASCE (12"/18" TD)
105	60#-105# ASCE (15" TD)

U Blank

-	(Dash)

C Voltage

1	200-3-60
2	208-3-60
3	230-3-60
4	460-3-60
5	575-3-60
6	380-3-50

K HP each motor

10	1
15	1.5
20	2
30	3
50	5
75	7.5
100	10

S Bumper

R3	
R4	
R5	
R6	
R7	
R8	N/A FOR TRRA9

Wheelbase	
ALL TRRA	042
	048
	054
	060
	066
	072
	078
	084
	090
	096
	102
	108
	114
	120
	126
	132
	138
	144
	150
	156
	162
	168
	174
TRRA12 TRRA15 TRRA18	180
	186
	192
	198
	204
	210
	216

Gage Code	
C	48
D	54
E	60
F	66
G	72
H	78
I	84
J	90
K	96
L	102
M	108
N	114
O	120
P	126
Q	132
R	138
S	144
T	150
U	156
V	162
W	168
X	174
Y	180

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

ROTATING AXLE END TRUCK

ROTATING AXLE END TRUCKS
(FLAT TREAD WHEELS STANDARD)

ROTATING AXLE END TRUCKS ONLY
NO DRIVES OR CONTROLS

One pair with Conical Bumpers and Rail Sweeps
Traverse speed and required horsepower must be specified.
Axle shafts will be provided to fit the Nord brand Clincher style reducer.
For a different reducer brand or style, see 'Special Axles' note this page.

Reference Number	Wheel Diameter	Wheel Base	Rail Size	List Price	Wt. (lbs.)
TRRA954	9"	4'-6"	20 - 30# ASCE	**$13,347.00**	930
TRRA972		6'-0"		**$13,814.00**	1077
TRRA990		7'-6"		**$14,328.00**	1224
TRRA996		8'-0"		**$14,488.00**	1273
TRRA9108		9'-0"		**$14,819.00**	1371
TRRA9120		10'-0"		**$15,147.00**	1469
TRRA954		4'-6"	40 - 70# ASCE	**$13,347.00**	930
TRRA972		6'-0"		**$13,814.00**	1077
TRRA990		7'-6"		**$14,328.00**	1224
TRRA996		8'-0"		**$14,488.00**	1273
TRRA9108		9'-0"		**$14,819.00**	1371
TRRA9120		10'-0"		**$15,147.00**	1469
TRRA12108	12"	9'-0"	30 - 50# ASCE	**$22,835.00**	2238
TRRA12120		10'-0"		**$23,169.00**	2360
TRRA12132		11'-0"		**$23,501.00**	2482
TRRA12144		12'-0"		**$23,832.00**	2604
TRRA12156		13'-0"		**$24,175.00**	2726
TRRA12168		14'-0"		**$24,504.00**	2848
TRRA12108		9'-0"	60 - 85# ASCE	**$22,835.00**	2238
TRRA12120		10'-0"		**$23,169.00**	2360
TRRA12132		11'-0"		**$23,501.00**	2482
TRRA12144		12'-0"		**$23,832.00**	2604
TRRA12156		13'-0"		**$24,175.00**	2726
TRRA12168		14'-0"		**$24,504.00**	2848
TRRA15108	15"	9'-0"	30 - 50# ASCE	**$31,791.00**	3301
TRRA15120		10'-0"		**$32,277.00**	3450
TRRA15132		11'-0"		**$32,751.00**	3599
TRRA15144		12'-0"		**$33,232.00**	3748
TRRA15156		13'-0"		**$33,708.00**	3897
TRRA15168		14'-0"		**$34,194.00**	4046
TRRA15108		9'-0"	60 - 85# ASCE	**$31,791.00**	3301
TRRA15120		10'-0"		**$32,277.00**	3450
TRRA15132		11'-0"		**$32,751.00**	3599
TRRA15144		12'-0"		**$33,232.00**	3748
TRRA15156		13'-0"		**$33,708.00**	3897
TRRA15168		14'-0"		**$34,194.00**	4046
TRRA18108	18"	9'-0"	30 - 50# ASCE	**$47,813.00**	4846
TRRA18120		10'-0"		**$49,484.00**	5050
TRRA18132		11'-0"		**$51,164.00**	5254
TRRA18144		12'-0"		**$52,838.00**	5458
TRRA18156		13'-0"		**$54,509.00**	5662
TRRA18168		14'-0"		**$56,179.00**	5866
TRRA18108		9'-0"	60 - 85# ASCE	**$47,813.00**	4846
TRRA18120		10'-0"		**$49,484.00**	5050
TRRA18132		11'-0"		**$51,164.00**	5254
TRRA18144		12'-0"		**$52,838.00**	5458
TRRA18156		13'-0"		**$54,509.00**	5662
TRRA18168		14'-0"		**$56,179.00**	5866

TAPERED TREAD DRIVER & IDLER WHEELS
FOR 1 PAIR OF TRUCKS - QUANTITY OF 4

Wheel Diameter	Suggested List Add
9"	**$1,120.00**
12"	**$1,328.00**
15"	**$1,487.00**
18"	**$1,654.00**

Contact Factory for lead time on tapered tread wheels.

SPARK RESISTANT FEATURES

See Rotating Axle Options Section.

END CONNECTION

"Whales Tail" End Connection Kit Catalog No. 444697-10 is designed for fixed axle end trucks. However, the End Connection Kits may possibly be used on certain smaller sized rotating axle end trucks. Consult factory for specific applications and assistance.

SPECIAL AXLES

Special Axles can be quoted on request. Consult factory for prices and lead time.
CM Engineering requires the following to design special axles - the reducer manufacturer, model number, bore diameter, key size (if applicable), type of retention if not keyed & a dimensional print if available

SQUARE BAR RUNWAY RAIL APPLICATIONS

Rotating Axle Wheel Dia.	Min. Height	Width		Price Add
		Min.	Max.	
9"	1"	1"	2-1/4"	**No charge**
12"	1-1/4"	1-1/2"	2-5/8"	**No charge**
15"	1-1/4"	1-1/2"	2-5/8"	**No charge**
18"	1-3/8"	1-1/2"	2-5/8"	**No charge**

Note: Please Specify Rail with Order

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

ROTATING AXLE CRANE KIT OPTIONS

Description	List Price
NEMA 4 Brake	
(For outdoor applications)	**$386.00**
NEMA 4X Enclosure Adders	
Fiberglass	**$1,241.00**
Stainless Steel	**$2,693.00**
Strip Heaters	
Strip Heater (Non Hazardous areas only) Includes: Heaters in both motors & control panel with transformer	**$1,531.00**
Warning Horns	
Warning Horn Must specify method of activation	**$777.00**
Warning Light Must specify method of activation	**$1,293.00**
Travel Limit Switch	
Two Switches, Bi-Directional (Trip Dog by others) NEMA 4/12	**$1,488.00**
Intrinsically safe (Hazardous area)	**$2,354.00**
Disconnect Panel Adders:	
60 Amp Panel	**$463.00**
100 Amp Panel	**$606.00**
Thermal Overload Relays:	
Single Speed & VFD	**$420.00**
2-Speed	**$716.00**
Adjustable EAC (115 Volt Control)	
208/230 Volt, 1-2 HP	**$1,232.00**
208/230 Volt, 3-6 HP	**$2,729.00**
460 Volt, 1-4 HP	**$1,232.00**
460 Volt, 5-10 HP	**$2,729.00**
Export Crate, non-stackable	
Per pair of end trucks	**$1,701.00**

Description	List Price
Variable Frequency Drive - 575/3/60 Volt Price Adder to standard 460 VFD Panels	
1½ Maximum HP per Motor	**$8,661.00**
2 Maximum HP per Motor	**$8,661.00**
3 Maximum HP per Motor	**$8,258.00**
5 Maximum HP per Motor	**$6,792.00**
7½ Maximum HP per Motor	**$5,622.00**
10 Maximum HP per Motor	**$6,476.00**
Deduct VFD Controls	
1½ Maximum HP per Motor	**-$5,416.00**
2 Maximum HP per Motor	**-$6,839.00**
3 Maximum HP per Motor	**-$7,691.00**
5 Maximum HP per Motor	**-$8,262.00**
7½ Maximum HP per Motor	**-$13,955.00**
10 Maximum HP per Motor	**-$17,663.00**
Deduct for 2 Speed Control in lieu of VFD	
1½ Maximum HP per Motor	**-$1,708.00**
2 Maximum HP per Motor	**-$1,876.00**
3 Maximum HP per Motor	**-$1,876.00**
5 Maximum HP per Motor	**-$2,285.00**

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

ROTATING AXLE CRANE KIT OPTIONS

EXPLOSION PROOF/SPARK RESISTANT OPTIONS

Description	List Price
Intrinsically Safe Relays	
Single Speed - per motion	**$1,242.00**
2-Speed - per motion	**$2,461.00**
Spark Resistant Wheels	
TOP-RUNNING	
9" Bronze Wheels	**$18,523.00**
with Rail Sweeps	**$22,438.00**
12" Bronze Wheels	**$28,180.00**
with Rail Sweeps	**$32,069.00**
15" Bronze Wheels	**$57,100.00**
with Rail Sweeps	**$65,061.00**
18" Bronze Wheels	**$40,579.00**
with Rail Sweeps	**$46,594.00**

EXPLOSION PROOF MOTOR/CONTROL*

ADD TO STANDARD ROTATING AXLE KITS IN THIS CATALOG

Division 1			Division 2				
Class 1, Group C & D Class 2, Group F & G		Drive HP	Class 1, Group C & D		Drive HP	Class 2, Group F & G	
1-Speed	2-Speed		1-Speed	2-Speed		1-Speed	2-Speed
$21,740.00	**$25,670.00**	1	**$9,008.00**	**$11,678.00**	1	**$2,649.00**	**$3,956.00**
$24,461.00	**$25,699.00**	1-1/2	**$11,597.00**	**$11,709.00**	1-1/2	**$2,649.00**	**$3,956.00**
$24,461.00	**$25,699.00**	2	**$11,597.00**	**$11,709.00**	2	**$2,649.00**	**$3,956.00**
$24,461.00	**$25,699.00**	3	**$11,597.00**	**$11,709.00**	3	**$2,649.00**	**$3,956.00**
–	**$33,010.00**	5	–	**$10,949.00**	5	**$2,649.00**	**$3,956.00**
–	**$42,226.00**	7-1/2	–	**$14,010.00**	7-1/2	**$2,649.00**	**$3,956.00**
–	**$54,213.00**	10	–	**$17,982.00**	10	**$2,649.00**	**$3,956.00**

*For VFD Controls - Contact Factory

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

1 AND 2 SPEED BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITHOUT SOFT START

For Bridge Traverse Motions

Includes Built-In Disconnect

Price Includes:

Feature:	**1-3 h.p.**	**5-10 h.p.**
NEMA 4/12 Panel	20 W x 16 H x 8.8" D*	24 W x 20 H x 10.8" D
Mainline Contactor	30 Amp**	60 Amp**
Control Transformer	115V/75VA	115V/100VA
Disconnect with Panel Mounted Handle	30 Amp**	60 Amp**
Fuses	Yes	Yes
Soft-Start	No	No
Hinge Point	Horizontal at bottom of panel	Horizontal at bottom of panel

*Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

Do not use single speed control for speeds over 100 F.P.M. Two speed control over 100 F.P.M. requires an electronic acceleration control.

For Maximum Total H.P.	Voltage	Single Speed			Two Speed		
		Catalog Number	List Price	Weight (lbs.)	Catalog Number	List Price	Weight (lbs.)
1	230	44423121	**$3,057.00**	75	44423221	**$3,171.00**	85
2		44423122	**$3,057.00**		44423222	**$3,171.00**	
3		44423123	**$3,057.00**		44423223	**$3,171.00**	
5		44423125	**$3,609.00**	115	44423225	**$3,811.00**	125
7.5		44423127	**$4,165.00**		44423227	**$4,469.00**	
10		44423129	**$4,165.00**		44423229	**$4,469.00**	
1	460	44423141	**$3,057.00**	75	44423241	**$3,171.00**	85
2		44423142	**$3,057.00**		44423242	**$3,171.00**	
3		44423143	**$3,057.00**		44423243	**$3,171.00**	
5		44423145	**$3,609.00**	115	44423245	**$3,811.00**	125
7.5		44423147	**$4,165.00**		44423247	**$4,469.00**	
10		44423149	**$4,165.00**		44423249	**$4,469.00**	
1	575	44423151	**$3,057.00**	75	44423251	**$3,171.00**	85
2		44423152	**$3,057.00**		44423252	**$3,171.00**	
3		44423153	**$3,057.00**		44423253	**$3,171.00**	
5		44423155	**$3,609.00**	115	44423255	**$3,811.00**	125
7.5		44423157	**$4,165.00**		44423257	**$4,469.00**	
10		44423159	**$4,165.00**		44423259	**$4,469.00**	

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

Note: Panel has room for addition of field installed soft-start. Reference components sections for prices.

Note: For approximate shipping weights add 10%

All prices are in US Funds.

INDIVIDUAL CRANE COMPONENTS & OPTIONS

1 AND 2 SPEED BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITH SOFT START

For Bridge Traverse Motions

Includes Built-In Disconnect

Price Includes:

Feature:	1-3 h.p.	5-10 h.p.
NEMA 4/12 Panel	20 W x 16 H x 8.8" D*	24 W x 20 H x 10.8" D
Mainline Contactor	30 Amp**	60 Amp**
Control Transformer	115V/75VA	115V/100VA
Disconnect with Panel Mounted Handle	30 Amp**	60 Amp**
Fuses	Yes	Yes
Soft-Start	Yes	Yes
Hinge Point	Horizontal at bottom of panel	Horizontal at bottom of panel

*Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

Do not use single speed control for speeds over 100 F.P.M. Two speed control over 100 F.P.M. requires an electronic acceleration control.

For Maximum Total H.P.	Voltage	Single Speed			Two Speed		
		Catalog Number	List Price	Weight (lbs.)	Catalog Number	List Price	Weight (lbs.)
1	230	44471121	**$4,238.00**	85	44471221	**$4,342.00**	95
2		44471122	**$4,238.00**		44471222	**$4,342.00**	
3		44471123	**$6,225.00**	125	44471223	**$6,427.00**	135
5		44471125	**$6,225.00**		44471225	**$6,427.00**	
7.5		—	—		—	—	
10		—	—		—	—	
1	460	44471141	**$3,758.00**	85	44471241	**$4,053.00**	95
2		44471142	**$4,238.00**		44471242	**$4,342.00**	
3		44471143	**$5,673.00**	125	44471243	**$5,791.00**	135
5		44471145	**$6,225.00**		44471245	**$6,427.00**	
7.5		44471147	**$6,782.00**		44471247	**$6,931.00**	
10		44471149	**$6,782.00**		44471249	**$6,931.00**	

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

Note: Panel has room for addition of field installed soft-start. Reference components sections for prices.

Note: For approximate shipping weights add 10%

INDIVIDUAL CRANE COMPONENTS & OPTIONS

VARIABLE FREQUENCY BRIDGE CONTROL PANELS

NEMA 4/12 PANEL WITH BUILT-IN DISCONNECT
FOR BRIDGE TRAVERSE MOTIONS

Speed range up to 20:1 (in F.P.M.)

Price Includes:

Feature:	**1-3 h.p.**	**5-10 h.p.**
IMPULSE Drive Type	IMPULSE·G+ Mini	IMPULSE·G+ Mini
Control only CMAA Service Class	D	D
NEMA 4/12 Panel	20 W x 16 H x 8.5 D*	24 W x 20 H x 10.5 D
Control Points	2-step, 3-step or 2-step & 3-step	2-step, 3-step & 5-step or 2-step & 3-step infinitely variable
Mainline Contactor	infinitely variable	
Control Transformer	30 Amp	60 Amp*
Disconnect with Panel Mounted Handle	115V / 75VA	115V / 75VA
External Dynamic Braking Resistor	30 Amp	60 Amp
Fuses	Yes	Yes
Hinge Point	Yes	Yes
	Horizontal at bottom of panel	Horizontal at bottom of panel

Includes: AC Brake Relay (12 amp), Surge Suppression on Coil and Space Terminal Board (10 terminals)

Max. Total H.P.	Power Supply	** Max. Full Load Amps	List Price	Catalog Number	*** Wt. (lbs.)	Power Supply	** Max. Full Load Amps	List Price	Catalog Number	*** Wt. (lbs.)
1	200 to 230 Volts 50/60 Hz	5.0	**$4,900.00**	44855021	80	380 to 460 Volts 50/60 Hz	3.4	**$5,099.00**	44855041	80
2		8.0	**$5,300.00**	44855022			3.4	**$5,099.00**	44855042	
3		11.0	**$5,533.00**	44855023			4.8	**$5,438.00**	44855043	105
5		17.5	**$6,750.00**	44855025	105		8.6	**$6,893.00**	44855045	
7½		25.0	**$7,898.00**	44855027			14.8	**$8,331.00**	44855047	
10		33.0	**$8,641.00**	44855029			18.0	**$9,240.00**	44855049	

* 3 hp panel for 460 volts is 24 W x 20 H x 10.5 D. *Adding a 60 amp disconnect increases enclosure size to the 5-10 hp panel.

** Please check the total amperage draw requirements for your crane application so the amperage limits of the mainline contactor and disconnect are not exceeded. Especially on 230 volt applications.

*** Add 15% for approximate shipping weight.

†For 575 volt applications - See Fixed Axle Options Section.

All prices are in US Funds.

TERMS & POLICIES

CMCO NORTH AMERICAN UPDATED TERMS AND CONDITIONS HOIST, RIGGING AND CRANE COMPONENTS

EFFECTIVE JULY 1, 2022

PAYMENT TERMS ARE 1% 10 DAYS/NET 30 DAYS FROM DATE OF INVOICE.

Freight – All shipments of Columbus McKinnon (CMCO) products are F.O.B. manufacturing plant or warehouse. Shipping charges will be paid by CMCO and allowed on any order (excluding noted models below*) when the order totals at least net US $7,500 providing such orders are for one shipment to one destination within the continental United States and are not drop ship orders to customer. Drop Ship orders are no longer covered under the freight allowance policy. Carrier and routing will be at the discretion of Columbus McKinnon Corporation. Small orders will not be accumulated to meet total freight requirements for freight to be paid by CMCO. "Add to" orders will be considered new orders and will not be included with orders already placed. If Columbus McKinnon makes partial shipment on an order originally meeting criteria for freight to be paid by CMCO, Columbus McKinnon will absorb transportation charges on all shipments applying to that order. Parcel post shipments will be insured at customer's expense, but customer is responsible for placing a valuation upon such shipments for insurance purposes. Shipments that do not meet the criteria for freight to be paid by CMCO will be made on a prepaid and add basis unless otherwise specified by customer. Requests for collect or third party bill shipments must specify the carrier. Title or risk of loss shall pass to the customer upon delivery to the carrier regardless of who pays the shipping cost.

* **The following products do not qualify for net US $7,500. freight allowance:**
All Chester Products including Chester PT trolleys, Electrification, Powerstar Electric Chain Hoists, Lodestar XL Air and Electric Chain Hoists and all Wire Rope Hoists and Crane Components Products.

* **For Channel Partners who are eligible to purchase hoist and crane parts, CMCO will pay freight on orders totaling $7,500.00 or more.**

Minimum Order Threshold – Net US $200.00

Handling Fee – a $50 net US handling fee assessed to all orders with special shipping instructions or carrier requests that are not shipped prepaid and add. This includes collect and third party shipments and customer pick up/will call orders. The handling fee does not apply to parcel shipments such as UPS.

Requests for Same Day Shipping – Orders requested to be shipped same day will be assessed a $100 fee.

- Orders must be received by CMCO prior to 12pm ET. Any order received after this time will be processed and dated to ship next day, subject to availability.
- Eligible only for in-stock items. Not eligible to reduce quoted/standard lead times.
- Order must be placed via email using samedayorderfee@cmworks.com orders placed via EDI, Distributor Web, Fax or Compass are not eligible for same day shipping.
- Shipments are subject to availability and not guaranteed.

Discounts are subject to change without notice. Furthermore, Hoist Parts orders not shipped directly to Channel Partners will be subject to lower discounts.

PRICES MAY BE SUBJECT TO ADDITIONAL SURCHARGE AT TIME OF ORDER

See www.columbusmckinnon.com for CMCO's Terms and Conditions of Sale

CMCO NORTH AMERICAN HOIST & RIGGING RETURN AND ORDER CANCELLATION POLICY

EFFECTIVE SEPTEMBER 1, 2020

A. Standard/Stock (i.e., Non-Special) Products

1. RETURNS:

Within one (1) year of delivery to Channel Partner, standard/stock products may be returned by Channel Partner to CMCO for credit with the prior approval of CMCO (such approval may be withheld by CMCO at its sole discretion). The original purchase order information must be included with Channel Partner's request for return.

All requests for return must be coordinated through the Channel Partner's CMCO Sales Manager. If the return is approved by CMCO, Customer Service issues a Return Goods Authorization Number to Channel Partner. Any approval by CMCO of a request for a return of a standard/stock product shall be valid for only 30 days after the issuance by CMCO of a Return Goods Authorization Number (i.e., the returned standard/stock product must be received by CMCO within 30 days after the issuance by CMCO of the Return Goods Authorization Number).

All standard/stock products to be returned must be new, unused, and free of corrosion, in the original carton, and in salable (as received) condition in original box and packaging with label identifiers intact. The following material is ineligible for return to CMCO: special products, obsolete or discontinued products, wire rope, nuts, bolts, washers, gaskets, cut chain, or any items with a net price under $50.00. Channel Partner is responsible for the cost of all return freight. Accordingly, all standard/stock products must be returned to CMCO on a prepaid transportation basis. Collect shipments will be refused by CMCO. The standard/stock products must be returned to the destination specified by CMCO with the Return Goods Authorization Number visibly displayed on the outside of the carton, preferably on the shipping label. Unauthorized return of standard/stock products may be refused and, if returned without approval of CMCO, Channel Partner is liable for any and all delivery, storage and return freight charges. Minimum return value is $500.00. No items under $50.00 net price will be eligible, regardless of quantity.

For returns approved by CMCO where reconditioning, inspection, retesting, repackaging or special handling of the returned standard/stock products is required, the amount of the credit issued to Channel Partner for such returned goods is reduced by a handling charge (determined by CMCO) to cover those costs. If such return is approved by CMCO, the amount of the credit issued by CMCO to Channel Partner equals the original purchase price of the returned standard/stock products, less a restocking charge (computed as set forth below) and any necessary handling charges.

Returned product that does not pass inspection and approval by CMCO's quality assurance department will be returned to customer at customer's expense or scrapped by CMCO at customer's request and no credit shall be issued.

2. RESTOCKING CHARGES:

If Channel Partner does not place an offsetting order (as defined below) at the time of the return request, the restocking charge is 35% of the original purchase price of the returned standard/stock products.

If Channel Partner does place an offsetting order (as defined below) at the time of the return request, the restocking charge will be 20% of the original purchase

3. CANCELLATIONS:

A purchase order submitted by Channel Partner to CMCO for standard/stock products may be cancelled by Channel Partner prior to the delivery of the standard/stock products to Channel Partner with the prior approval of CMCO (such approval may be withheld by CMCO in its sole discretion). The original purchase order information must be included with Channel Partner's request for cancellation. All requests for cancellation must be coordinated through the Channel Partner's CMCO Sales Manager and submitted in writing. If cancellation of a purchase order is approved by CMCO, Customer Service will issue a Cancellation Goods Authorization Number to Channel Partner. If such cancellation is approved by CMCO, Channel Partner shall pay CMCO a cancellation charge (computed asset forth below).

4. CANCELLATION CHARGES:

If Channel Partner does not place an offsetting order (as defined below) at the time of the request for cancellation, the cancellation charge is 35% of the original purchase price of the cancelled standard/stock products.

If Channel Partner does place an offsetting order (as defined below) at the time of the request for cancellation, the cancellation charge is 20% of the original purchase price of the cancelled standard/stock products.

5. OFFSETTING ORDER:

For an order to qualify as offsetting, (a) it must be placed by Channel Partner at the time of the return/cancellation request, (b) it must be comprised of products comparable to those being returned/cancelled (i.e., parts for parts, or units for units), (c) the total purchase price must be equal to at least 125% of the purchase price (before charges) of the standard products being returned/cancelled, and (d) the purchase order submitted by Channel Partner must reference the offset/cancellation charge as well as the Return/Cancellation Goods Authorization Number. Promotional orders cannot be used as an offsetting order without approval from the CMCO Director of Channel Services.

B. Special Products

Special products (i.e., engineered or nonstock products specifically designed for unique applications and not classified by CMCO as standard/stock products) cannot be returned for credit. Purchase orders submitted by Channel Partner to CMCO for special products cannot be cancelled.

Special products include, without limitation, wire rope hoists, crane components, bridge kits, end trucks, Chester products, Magnetek Products, CM Powerstar, Lodestar XL, and any chain hoist rigging product that requires engineering or special machined or purchased components.

For any return of any special product or cancellation of any order for any special product, any down-payments or deposits submitted by Channel Partner may, at the sole option of CMCO, be forfeited.

C. Stock Adjustment/Slow Moving Inventory Returns

1. HOIST UNITS, ACCESSORIES AND RIGGING PRODUCT RETURNS:

For Channel Partners who qualify as either Platinum or Gold status, the frequency of returns and the offsetting order requirements vary based on the Channel Partner's level status (see below). Contact your CMCO Sales Manager for further details. Channel Partners not holding Platinum or Gold status will have the ability to exercise a single stock adjustment return per calendar year without a restocking charge contingent upon returned product and offsetting order meeting the conditions set forth in this policy.

GENERAL RETURN FREQUENCY AND OFFSETTING ORDER PARAMETERS:

Platinum Status:
4 returns per fiscal year (April through March)
and restock charge waived with 110% offsetting order value

Gold Status:
2 returns per fiscal year (April through March)
and restock charge waived with 115% offsetting order value

Non-Platinum or Gold:
1 return per fiscal year (April through March)
and restock charge waived with 150% offsetting order value

Requests for stock adjustment/slow-moving inventory return must be accompanied by CMCO's annual return spreadsheet indicating product number, quantity, PO number and date, CMCO order number, and item description and are subject to management approval. Requests may be submitted electronically to returns@cmworks.com and must be made prior to January 1 of the current fiscal year.

2. HOIST PARTS RETURNS:

Channel Partners purchasing hoist parts inventory may return slow-moving hoist parts inventory following the same guidelines as noted above (C1) with regard to frequency and requirements to waive restocking charges. The maximum return allowed each year is no more than 10% of the Channel Partner's total hoist parts purchases from CMCO's previous fiscal year (April through March).

Parts returned must meet the same terms as outlined above (A1). All parts must be bagged and identified with the part number, and only hoist parts that are stocked by CMCO, with a unit net price over $50.00 may be returned. Parts that are, in CMCO's sole discretion, not currently active or are obsolete are not allowed for return. The invoice number and the invoice date should be shown for each item being returned. If the invoice number and date cannot be supplied or determined by CMCO, no credit is allowed. When a parts return request is initiated, CMCO provides Channel Partner with a form that must be completed to obtain all required information for the parts being returned and allow for the Return Goods Authorization Number to be issued.

In the event of a conflict between any of the terms of this Policy and the terms of any written agreement with any Channel Partner, the terms of the written agreement shall control.

LOAD TEST POLICY — FOR CHAINLESS PROGRAM

† Re-chained hoist must be proof tested to 125% of rated load prior to being put into service. When participating in our chainless program, you are agreeing that you have the ability to and will test all re-chained units either in-house or by using a third party testing company.

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