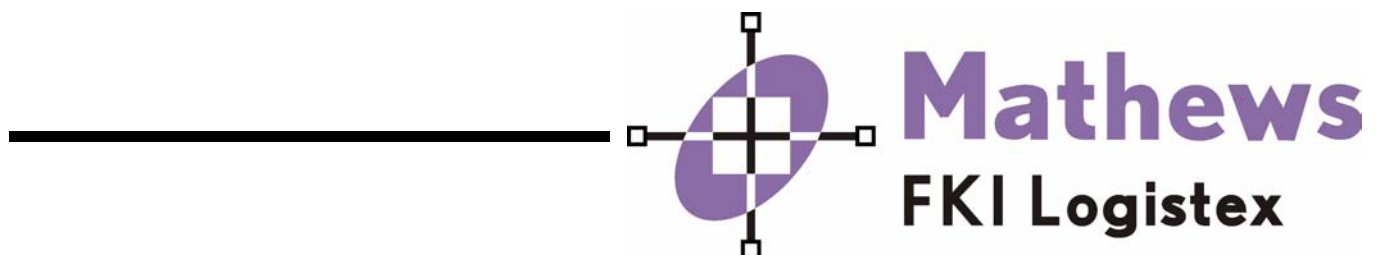


Chain Driven Live Roller Conveyor



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Engineering Data

Introduction ----- 1

Single Strand CDLR ----- 2

 Product Width - Straight Conveyor ----- 2

 Product Width - Curves ----- 2

 Effective Conveying Widths for C557 Single Strand Chain Driven Live
 Roller Curve: ----- 3

 Product Length - Straight Conveyor ----- 3

 Product Length - Curves ----- 3

 Product Weight ----- 4

 Product Loading ----- 4

Chain Pull and Horsepower Calculations ----- 5

 Chain Pull Calculations ----- 5

 Live Load (A) ----- 5

 Dead Load (B) ----- 5

 Chain Pull (C) ----- 6

 Inclines (D) ----- 6

 Deflectors (E) ----- 6

 Effective Chain Pull ----- 6

 Total Chain Pull (C + D + E) x 1.25 = Eff. Chain Pull (lbs.) ----- 7

 Horsepower Calculations ----- 7

Roller to Roller CDLR ----- 8

 Product Width - Straight Conveyor ----- 8

 Product Width - Curves ----- 8

 Product Length - Straight Conveyor ----- 9

 Product Length - Curves ----- 9

 Product Weight ----- 10

 Product Loading ----- 11

Chain Pull and Horsepower Calculations ----- 12

 Chain Pull Calculations ----- 12

 Horsepower Calculations ----- 13

 Dead Loads ----- 14

 Service Factors ----- 16

Single Strand CDLR

Units ----- 17

 Intermediate Drive - Model LRSS ----- 17

 End Drive - Model LRSC ----- 19

Components ----- 21

 C571 Intermediate Drive ----- 21

 C573 End Drive ----- 23

 C559 End Drive ----- 25

 C127 End Section ----- 26

 C572 Intermediate Tread Sections ----- 27

 C557 Curve ----- 28

 C546 - 30° Spur ----- 32

 C547 - Power Crossover Section ----- 34

Roller To Roller CDLR

Units -----35

 Model RRCD190 -----35

 Model RRCD250 -----37

 Model TTRC250 True Tapered Curve -----39

 Model RRCD256 -----41

 Model RRCD350 -----43

Components -----45

 C20002/C20003 Intermediate Drive Section (1.90" dia. Rollers) -----45

 C20000 Intermediate Tread Section (1.90" dia. Rollers) -----47

 C20004 Straight Faced Roller Curve (1.90" dia. Rollers) -----49

 C20001 Chain Crossover (1.90" dia. Roller) -----51

 C20014 Intermediate Drive Section (2.50" dia. Rollers) -----52

 C20014/C20016 Intermediate Drive Section (2.50" dia. Rollers) -----53

 C20010 Intermediate Tread Section (2.50" dia. Rollers) -----54

 C20018 Straight Faced Roller Curve (2.50" dia. Rollers) -----57

 C20013 Chain Crossover (2.50" dia. Roller) -----60

 C20024 Intermediate Drive Section (2.56" dia. Rollers) -----61

 C20024/C20026 Intermediate Drive Section (2.56" dia. Rollers) -----62

 C20020 Intermediate Tread Section (2.56" dia. Rollers) -----63

 C20028 Straight Faced Roller Curve (2.56" dia. Rollers) -----65

 C20023 Chain Crossover (2.56" dia. Roller) -----67

 C20036 Intermediate Drive Section (3.50" dia. Rollers) -----68

 C20036/C20037 Intermediate Drive Section (3.50" dia. Rollers) -----69

 C20030 Intermediate Tread Section (3.50" dia. Rollers) -----70

 C20052 Straight Faced Roller Curve (3.50" dia. Rollers) -----73

 C20033 Chain Crossover (3.50" dia. Roller) -----75

General Specifications

Roller to Roller Chain Driven Live Roller Conveyor - Available as a Standard Product -----77

Roller to Roller Chain Driven Live Roller Conveyor - Available as an Engineered Product -----78

Chain Driven Live Roller Conveyor Units - Approximate Weight Per Foot -----79

Controlled Flow Conveyor

Application DatCFC Series II, III and IV - Available as an Engineered Product -----81

 How CFC Series II, III and IV Accumulation Operates -----81

 Release Modes -----81

 Singulation -----81

 Sequential -----81

 Application Information -----82

Units -----83

 CFC Series II - (1.90" dia. Rollers) -----83

 Conveyor Capacity Calculations (CFC II) -----85

 Heavy Duty CFC Series III - (2.50" dia. Rollers) -----86

 Conveyor Capacity Calculations (CFC III) -----88

 Extra Heavy Duty CFC Series IV - (3.50" dia. Rollers) -----89

 Conveyor Capacity Calculations (CFC IV) -----91

Components -----92

 CFC Series II - Drive Section (1.90" dia. Rollers) -----92

 CFC Series II - Intermediate Conveyor Section (1.90" dia. Rollers) -----94

 Heavy Duty CFC Series III - Drive Section (2.50" dia. Rollers) -----96

 Heavy Duty CFC Series III - Intermediate Conveyor Section (2.50" dia. Rollers) --98

 Extra Heavy Duty CFC Series IV - Drive Section (3.50" dia. Rollers) -----100

 Extra Heavy Duty CFC Series IV - Intermediate Conveyor Section (3.50" dia. Rollers) -----102

Supports

C1230 Floor Single Leg Floor Support - 750 Pound Capacity -----103

C1231 Floor Support - 1500 Pound Capacity -----103

C681, C682, C683 and C684 Series - 3000 Pound Capacity Floor Supports ----106

C698 and C699 Series - 6000 pound capacity Floor Supports -----109

C1570 - Floor Support - 12,000 or 25,000 Pound Capacity (Formerly E-609) ---111

C1275 - Hanger Support - 1500 Pound Capacity -----112

 For use with Single Strand Chain Driven Live Roller Conveyor -----112

Accessories

Model 3500TT - 90° Powered Turntable - 3000 Pound Capacity -----115

Model 3000XF - Two Strand Chain Transfer - 3000 Pounds Capacity -----116

 For use with RRCD250 and RRCD256 CDLR -----116

Model 3100XF - Two Strand Chain Transfer - 3000 Pounds Capacity -----118

 For use with RRCD250 and RRCD256 CDLR -----118

D1443 - Angle Guard Rail -----120

 For use with Single Strand Chain Driven Live Roller Conveyor -----120

D1444 - Curved Angle Guard Rail -----121

 For use with C557 Curves -----121

Electrical Components & Control Equipment

Combination Starters -----123

Components For Driving and Controlling the Powered Conveyors -----125

 Motors -----125

 Gear Reducer -----126

 Brakes -----127

 Clutch Brake -----127

 Motor Starters -----127

 Manual Motor Starters -----127

 Magnetic Motor Starters-----127

 Combination Magnetic Motor Starters and Control Panels-----128

 Electrical Enclosures -----129

 Switching Devices -----129

 Push Buttons -----129

 Limit Switches-----129

 Selector Switches -----129

 Photoelectric Relays -----129

 Solenoid Valves -----130

 Air Controls -----130

Engineering Data

Introduction

This manual starts with the assumption that you have already determined which type of Mathews chain driven live roller conveyor you require.

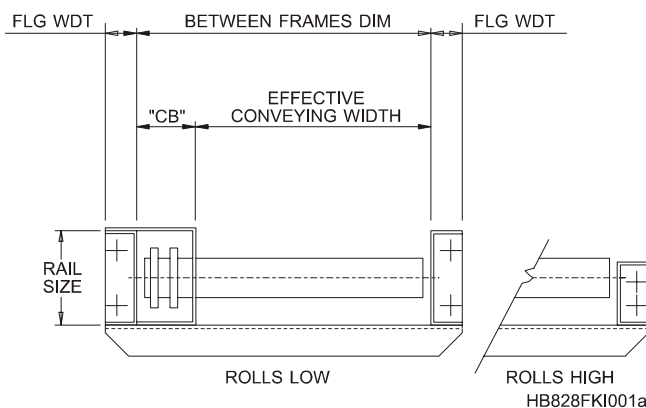
A chain driven live roller conveyor is a conveyor where the product rides directly on the carrying rollers. These carrying rollers have sprockets welded to them, which in turn are powered by a chain. This manual will explain the various types of Mathews chain driven live roller conveyors manufactured by Mathews.

In this manual we will describe the following types of chain driven live roller conveyors:

1. Single Strand Chain Driven Live Roller
2. Roller to Roller Chain Driven Live Roller

In this manual, you will note that we are depicting standard units, illustrating the components from which they are assembled, as well as offering a description of these various components. Also included are descriptions of supports and accessories for each type of conveyor.

Due to the physical design of the chain driven live roller, we will be referring to two different types of conveyor width. These are Effective Conveying Width and the Between Frames Dimension. See the drawing below:



For the various sizes of CDLR, the width of the chain box will also vary and the effective conveying surface will always be less than the between frames dimension. When selecting equipment, be sure this aspect has been considered.

In order to properly evaluate chain driven live roller, we will break it down into the two types, single strand chain driven live roller and roller to roller chain driven live roller.

Single Strand CDLR

As the name implies, it consists of a single strand of chain traveling over sprockets welded to the rollers. There is only one sprocket per roller. Contact with the sprocket teeth is maintained by a continuous cover plate and hold down. The chain is also returned in this “chain box”. Because of limited tooth engagement, this type of CDLR should not be used for start-stop applications and only with moderate unit loads.

There are several product features that will determine the conveyor specifications:

Product Width - Straight Conveyor

The effective conveyor width should be approximately 3" wider than the widest product to be conveyed, then select the next larger standard width conveyor. For single strand chain driven live roller, our standard effective conveying widths are 15", 21", 27", 33" and 39". In the single strand CDLR, the between frames dimension is always effective conveying width + 2".

Example: 23" wide product + 3" = 26"
 Next larger standard is 27" Effective Conveying
 Width or 29" Between Frames

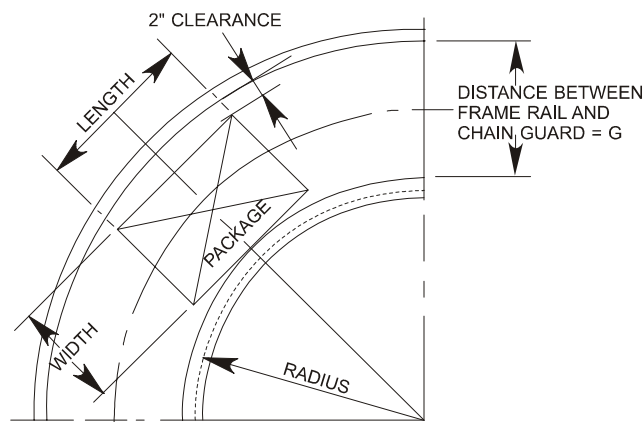
Product Width - Curves

Many times curves in a system will dictate the width of the conveyor for the entire system, in that the product may require “additional space” to negotiate the turn. This “additional space” depends upon the width and length of the product. The chart below shows the conveyor widths required to convey product around a curve.

The conveyor widths are listed based on our standard radii for the various standard Between Frame dimensioned curves. This chart is also based on the formula listed and good conveyor practice, that the inside radius should be greater than the length of the product.

Formula for determining distance Between Frames or Guard Rails.

$$G = \sqrt{(Radius + PackageWidth)^2 + \left(\frac{PackageLength}{2}\right)^2} - (Radius - 2)$$



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Effective Conveying Widths for C557 Single Strand Chain Driven Live Roller Curve:

Product Length	Product Width									
	9"	12"	15"	18"	21"	24"	27"	30"	33"	36"
	Effective Conveying Width									
15"	15	15	21	21	27	27	33	33	39	39
21"	15	21	21	21	27	27	33	33	39	39
27"	15	21	21	27	27	33	33	33	39	39
33"	15	21	21	27	27	33	33	39	39	---
39"	21	21	21	27	27	33	33	39	39	---

Product Length - Straight Conveyor

It is good practice, for chain driven live roller conveyors to have a minimum of three rollers under the product at all times. To determine roller spacing, take the length of the shortest product, divide by 3 and choose the standard roller spacing required, either 4-1/2" or 6" centers.

$$\text{Example: } \frac{21" \text{ long product}}{3 \text{ Rollers}} = 7.0"$$

The closest standard roller spacing is 6" centers.

Product Length - Curves

On curves, the roller centers on the inside rail are closer together than they are on the outside rail. In our standard construction, the wider the conveyor, the more rollers are required in the curve to keep the roller centers to a minimum. You must keep this "fanning" effect in mind when choosing curves.

The following chart shows the roller spacing at various points on the curve.

C557 Single Strand Curve				
Between Frames Dimension	Effective Conveyor Width	Rollers Centers At		
		*Inside Rail	*Center-Line	Outside Rail
17"	15"	3.17"	3.83"	4.48"
23"	21"	3.13"	3.82"	4.50"
29"	27"	3.10"	3.81"	4.52"
35"	33"	3.09"	3.81"	4.53"
41"	39"	3.07"	3.80"	4.54"

*Effective Conveying Width

Product Weight

A check should be made concerning the product weight by taking the various product weights divided by 2/3 of the number of rollers under the product and compare the capacity per roller for that width.

1.90" Dia. x .148" Steel Roller			
Between Frames Dimension	Effective Conveyor Width	Roller Weight w/o Axles	Roller Capacity w/B1020 Bearing
17"	15"	4.1#	310"
23"	21"	5.4#	310#
29"	27"	6.8#	310#
35"	33"	8.2#	290#
41"	39"	9.5#	254#

Also note that the frame capacity for single strand CDLR is 100 pounds per foot.

Product Loading

The maximum load that the conveyor will encounter (live load) is a major factor in determining the drive and motor requirements. The conveyor loading, expressed in pounds per foot, can be obtained by any of the following methods.

1. Divide the total maximum load on the conveyor by the conveyor length.

$$\frac{\text{Total load on conveyor (lbs)}}{\text{Conveyor Length (ft)}} = \text{Conveyor Loading (lbs/ft)}$$

2. When the product is introduced to the conveyor at a given rate, the conveyor loading is a function of product weight, product rate, and conveyor speed.

$$\frac{\text{Prod Wt (lbs)} \times \text{Prod Rate (ctns/min)}}{\text{Conveyor Speed (ft/min)}} = \text{Conveyor Loading (lbs/ft)}$$

3. When the product is back to back on the conveyor, the conveyor loading is a function of product weight and product length.

$$\frac{\text{Product Weight (lbs)}}{\text{Product Length (ft)}} = \text{Conveyor Loading (lbs/ft)}$$

4. When the product is introduced to the conveyor at an uneven rate, the conveyor loading can be determined by taking the maximum weight that the conveyor must handle in one minute and dividing by the conveyor speed.

$$\frac{\text{Product Weight (lbs/min)}}{\text{Conveyor Speed (ft/min)}} = \text{Conveyor Loading (lbs/ft)}$$

Always consider the worst loading condition that the conveyor will be subject to in order to determine conveyor loading.

In order to determine actual chain pull and HP requirements, use the following procedure.

Chain Pull and Horsepower Calculations

Chain Pull Calculations

Live Load (A)

The total weight of the product being conveyed is normally expressed in pounds per foot (lbs./ft.). For various formulas to determine loading see Product Loading section.

$$\text{Live Load (lbs./ft.)} \times \text{Conveyor Length} = \text{Total Live Load (lbs.)}$$

Dead Load (B)

When power is applied to a chain driven live roller conveyor, all carrying rollers are turning and therefore must be included in our calculations. On chain driven live roller conveyor, this weight can be substantial. This dead load is a combination of two parts.

1. The first part is the weight of all rollers, chain and sprockets and is expressed in lbs./ft. This weight has been calculated for you for the various roller centers and widths of single strand chain driven live roller conveyor.

$$\text{Dead Load (Part 1)} \times \text{Conveyor Length} = \text{DL}_1 \text{ (lbs.)}$$

2. The second part is the weight of all drive pulleys and end rollers and is expressed in lbs. This weight has been calculated for you for the various widths and types of live roller conveyor. This weight is constant and is not dependent on conveyor length.

$$\text{Dead Load (Part 2)} = \text{DL}_2 \text{ (lbs.)}$$

DEAD LOADS						
Single Strand Chain Driven Live Roller						
	Carrying Roller Centers	17" W lbs./ft.	23" W lbs./ft.	29" W lbs./ft.	35" W lbs./ft.	41" W lbs./ft.
Part 1	4-1/2"	15.5	19.6	23.6	27.8	31.9
	6"	10.8	13.6	16.4	19.2	21.8
Part 2	C573 End Drive	23.3#	24.6#	26.9#	29.2#	31.5#
	C571 Int. Drive	71.1#	86.6#	102.0#	117.5#	132.9#
	C127 End Unit	8.4#	11.2#	13.5#	15.8#	18.1#
	C557 90° Curve w/Drive and End Unit	60#	100#	150#	210#	280#

Note: Select (1) one of C573 End Drive and (1) one C127 End Unit or (1) one C571 Intermediate Drive and (2) two C127 End Unit and Curve quantity (if required).

$$\text{Dead Load}_2 \text{ (DL}_2\text{)} = \text{Total Dead Load of Drive and End Unit(s)} + \text{Dead Load of Curves (if required)} = \text{Dead Load (Part 2)} = \text{DL}_2 \text{ (lbs.)}$$

$$\text{DL}_1 + \text{DL}_2 = \text{B (Total Dead Load)}$$

Chain Pull (C)

Chain pull is the force required to start and maintain the movement of all rollers and live load and is obtained by multiplying the total live load plus dead load by the coefficient of friction, which varies with the type of conveyor.

	Coefficient of Friction
Single Strand CDLR	.06
Roller to Roller CLR	.05

$$(A + B) \times \text{Coefficient of Friction} = C \text{ (Chain Pull in lbs.)}$$

Inclines (D)

The maximum recommended incline for chain driven live roller conveyor is 5 degrees. It is advisable to conduct a test to insure a particular product will convey on an inclined unit. Additional chain pull is generated by elevating the product and can be calculated two ways.

1. Total Live Load on Incline (lbs.) x Sine of Angle = Additional Belt Pull (lbs.)
2. The second method can be used for uniformly loaded conveyors.

$$\text{Average Live Load (lbs./ft.)} \times \text{Rise in Elevation (ft.)} = \text{Additional Belt Pull (lbs.)}$$

The increase in chain pull generated by an incline is not affected by the coefficient of friction.

Sines of Various Angles	
Angle	Sine
1°	.02
2°	.04
3°	.05
4°	.07
5°	.09

Deflectors (E)

Deflectors add to the chain pull due to the force required to slide the products off the conveyor. For each deflector add 30% of the weight of the heaviest product being deflected, to the chain pull.

$$\text{Number of Deflectors} \times \text{Heaviest Product (lbs.)} \times .30 = \text{Additional Chain Pull (lbs.)}$$

Effective Chain Pull

For effective chain pull add 25% to the total chain pull for chain flexing and bearing friction losses.

Total Chain Pull (C + D + E) x 1.25 = Eff. Chain Pull (lbs.)

After having determined the effective chain pull, you should check that figure against the chart below, which shows allowable chain pull, to make sure you are not exceeding the capacity of the chain. If you do exceed the capacity, you need to shorten the conveyor or decrease the live load.

MAXIMUM ALLOWABLE CHAIN PULL (LBS.)		
Chain No.	Conveyor Speed (FPM)	
	0 - 60	80
40	560#	500#
50	875#	800#
60	1200#	1075#
80	2100#	1950#
100	3550#	3250#

Note: At higher speeds, noise level may be a consideration.

Horsepower Calculations

The required drive horsepower may be calculated as follows:

$$\frac{\text{Effective Chain Pull (lbs)} \times \text{Conveyor Speed (FPM)}}{33,000} = \text{HP}$$

Reducers have inherent inefficiencies, due to design. These inefficiencies vary and the output horsepower from the reducer is less than the input horsepower of the motor.

Use the Horsepower calculation and select the next highest standard horsepower motor for the RPM output required from the Horsepower chart.

MOTOR / REDUCER HORSEPOWER OUTPUT								
Motor HP	Reducer RPM Output							
	20	29	44	58	68	88	97	117
1/4	--	--	--	--	.18	--	--	--
1/3	--	--	--	--	.23	--	--	--
1/2	.30	.30	.33	.35	.38	.39	.40	.39
3/4	.59	.63	.52	.53	.57	.58	.59	.62
1	.79	.84	.69	.76	.81	.78	.79	.85
1-1/2	1.19	1.25	1.29	1.30	1.22	1.26	1.28	1.28
2	1.58	1.67	1.72	1.77	1.81	1.82	1.70	1.72
3	2.58	2.50	2.18	2.18	2.27	2.53	2.35	2.59
5	4.07	3.10	4.33	4.01	4.10	4.25	4.08	4.37

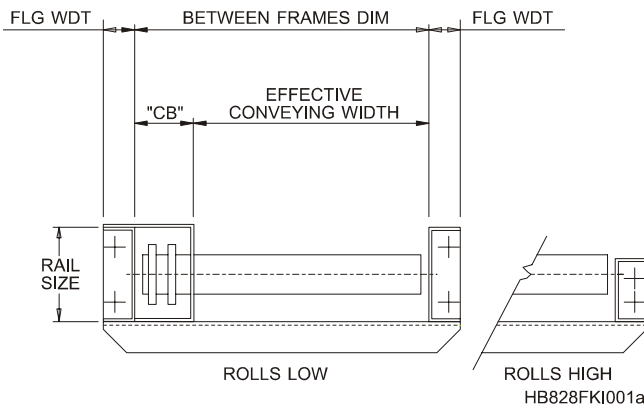
Roller to Roller CDLR

With this construction, two plate or “A” type sprockets are welded to one end of each roller and individual loops of chain connect pairs of rollers in a staggered pattern, along the length of the conveyor. This driving arrangement is more desirable for heavy loads and for applications requiring frequent stopping or reversing service.

There are several product features that will determine the conveyor specifications:

Product Width - Straight Conveyor

The effective conveyor width should be approximately 3" wider than the widest product to be conveyed, then select the next larger standard width conveyor. For roller to roller chain driven live roller conveyor, the standard effective widths vary depending upon the size of equipment required. Standard effective conveying widths and between frames dimensions are shown in this manual.



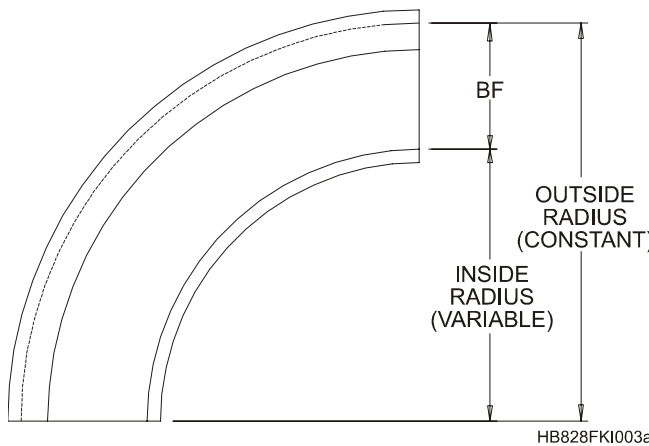
As stated earlier, due to the physical design of chain driven live roller, we will be referring to two different types of conveyor width. These are the Effective Conveying Width and the Between Frames dimension. See the drawing below:

For the various sizes of CDLR, the width of the chain box will also vary and the effective conveying surface will always be less than the between frames dimension. When selecting equipment, be sure this aspect has been considered.

Product Width - Curves

Many times curves in a system will dictate the width of the conveyor for the entire system, in that the product may require “additional space” to negotiate the turn. This “additional space” depends upon the width and length of the product being conveyed, as well as the inside radius of the curve.

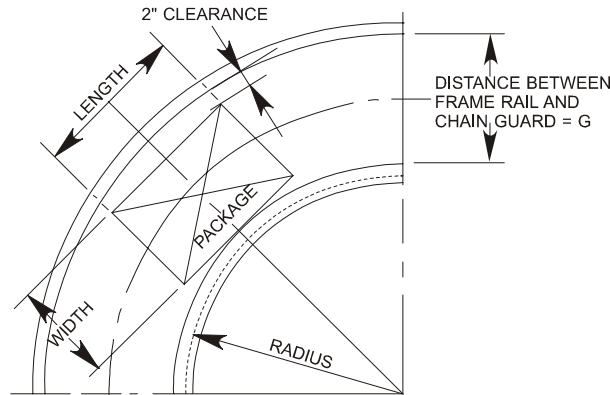
When selecting the curve, it must be remembered that a curve that utilizes 1.90" dia. rollers cannot be used in conjunction with or driven by a straight section utilizing a 2.50" dia. roller or any other size. The design and dimensions are not compatible.



The design of our roller to roller chain driven live roller curves are developed to simplify manufacturing procedures and therefore the outside radius is fixed or constant on each of the three styles of CDLR. As the conveyor width increases, the inside radius decreases.

In order to determine the W and/or radius, select the appropriate style of straight section and then, through a trial and error method, use the following formula, plugging in the appropriate numbers until the formula is satisfied. As a general rule, the inside radius of the curve should be greater than the length of the product.

$$G = \sqrt{(Radius + Package Width)^2 + \left(\frac{Package Length}{2}\right)^2} - (Radius - 2)$$



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Example: Product size - 24" Square Plywood Pallet Weighing 500 lbs.

The weight would put it into the 1.90" dia. roller category and in consideration of product width characteristics for straight conveyor, the approximate effective width would be 24" + 3" = 27".

Reviewing the specifications for 1.90" dia. CDLR, the closest standard effective width would be 26-3/4" with a between frames dimension of 30". With this in mind, the constant outside radius for the 1.90" dia. roller style CDLR is 65-1/8".

65-1/8" - 30" = Inside Radius of 35-1/8". Using the above formula

$$\begin{aligned} G(\text{Eff Width}) &= \sqrt{(35.125 + 24)^2 + \left(\frac{24}{2}\right)^2} - (35.125 - 2") \\ &= \sqrt{(59.125)^2 + (12)^2} - 33.125 \\ &= \sqrt{3496 + 144} - 33.1 \\ &= \sqrt{3640} - 33.1 \\ &= 60.3" - 33.1" = 27.2" \end{aligned}$$

Our initial assumption was correct. If it were not, we would probably check out the next larger standard width unit.

Product Length - Straight Conveyor

It is good practice, for chain driven live roller conveyors to have a minimum of three rollers under the product at all times. To determine roller spacing, take the length of the shortest product, divide by 3 and choose the standard roller spacing required. The standard roller spacing varies depending on the frame and roller size selected. See the individual specification pages for each type in this manual.

Product Length - Curves

On curves, the roller centers on the inside rail are closer together than they are on the outside rail. Due to our design, since the outside radius is fixed or constant on each of the three styles of CDLR, the roller centers on the outside rail are also constant for each style. See the individual specification pages for each type in this manual.

Product Weight

1. Roller Selection and Spacing:

Many products have rigid bottoms or conveying surfaces and more often than not they are not exactly flat. This is especially true when dealing with CDLR, since it is probably handling heavier products, which require more rigid containers.

In order to compensate for this, it is advisable to figure that only 2/3 of the rollers will support the full weight of the product. Therefore, it is necessary to take the weights of the various products being conveyed and divide by 2/3 of the rollers under the product to determine the required capacity of the roller.

Example: 19" long product weighing 80 lbs.

$$\frac{19 \text{ "long product}}{3 \text{ Rollers}} = 6.33 \text{ "roller centers}$$

The closest standard will probably be 6". Therefore, there are three rollers under the product, 2/3 x 3 = 2 roller supporting 80 lbs.

80 lbs. ÷ 2 rollers = 40 lbs. per roller required capacity.

If you are not able to find a roller with the required capacity, it may be necessary to provide rollers on closer centers. Always consider the worst loading condition that the conveyor will be subject to in order to determine roller spacing.

1.90" Dia. x .109" Steel Roller	
Between Frames Dimension	Roller Capacity w/B1020 Bearing
18"	310#
21"	310#
24"	310#
27"	310#
30"	310#
33"	304#
36"	286#
39"	269#

2.50" Dia. x .120" Steel Roller	
Between Frames Dimension	Roller Capacity w/B1060 Bearing
18"	610#
24"	610#
30"	610#
36"	610#
42"	610#
48"	596#
54"	591#
60"	555#

2.56" Dia. x .180" Steel Roller	
Between Frames Dimension	Roller Capacity w/B1060 Bearing
18"	610#
24"	610#
30"	610#
36"	610#
42"	610#
48"	589#
54"	583#
60"	546#

3.50" Dia. x .300" Steel Roller	
Between Frames Dimension	Roller Capacity w/B1080 Bearing
18"	2500#
24"	2500#
30"	2500#
36"	2500#
42"	2500#
48"	2473#
54"	2443#
60"	2432#
66"	2309#
72"	2100#

2. Frame Selection:

In order to simplify selection, roller and frame combinations have been selected that offer compatibility in size and capacity. Having determined the roller size, you will find that roller in a specific frame and you will need to confirm that this frame has the required capacity. You need to determine the total load on the conveyor at the worst loading condition and check the frame capacity chart on pages H-27, H-33, H-39, or H-45 depending on the different roller series CDLR. The frame must be able to support the combined weight of the rollers/axles, the live load and any other devices which are to be mounted.

3. Support Selection:

You will note that the capacities for the frames are based on support centers either 5'-0" or 10'-0". In some instances, it may be more economical to stay with a smaller roller and increase the number of supports to achieve the desired capacity. When selecting the supports, be sure to include the weight of the frame plus rollers, along with the live load for capacity ratings of the supports. Note that the nominal height is to the bottom of the conveyor frame rail.

Product Loading

The maximum load that the conveyor will encounter (live load) is a major factor in determining the drive and motor requirements. The conveyor loading, expressed in pounds per foot, can be obtained by any of the following methods:

1. Divide the total maximum load on the conveyor by the conveyor length.

$$\frac{\text{Total load on conveyor (lbs)}}{\text{Conveyor Length (ft)}} = \text{Conveyor Loading (lbs/ft)}$$

2. When the product is introduced to the conveyor at a given rate, the conveyor loading is a function of product weight, product rate, and conveyor speed.

$$\frac{\text{Prod Wt (lbs/ctn)} \times \text{Prod Rate (ctns/min)}}{\text{Conveyor Speed (ft/min)}} = \text{Conveyor Loading (lbs/ft)}$$

3. When the product is back to back on the conveyor, the conveyor loading is a function of product weight and product length.

$$\frac{\text{Product Weight (lbs)}}{\text{Product Length (ft)}} = \text{Conveyor Loading (lbs/ft)}$$

4. When the product is introduced to the conveyor at an uneven rate, the conveyor loading can be determined by taking the maximum weight that the conveyor must handle in one minute and divide by the conveyor speed.

$$\frac{\text{Product Weight (lbs/min)}}{\text{Conveyor Speed (ft/min)}} = \text{Conveyor Loading (lbs/ft)}$$

Always consider the worst loading condition that the conveyor will be subject to in order to determine conveyor loading.

In order to determine actual chain pull and HP requirements, use the following procedure.

Chain Pull and Horsepower Calculations

Dr	Diameter of drive rollers (inches)
Ds	Pitch diameter of sprockets on driven rollers (inches)
L	Conveyor length (feet)
L1	Conveyor length upstream of drive (feet)
L2	Conveyor length downstream of drive (feet)
Fr	Rolling resistance, generally accepted @ 5% = 0.05
Fc	Exponential chain loss factor = $\frac{(1+i)^n - 1}{n \times i}$
Fc1	Exponential chain loss factor (upstream) = $\frac{(1+i)^{n1} - 1}{n1 \times i}$
Fc2	Exponential chain loss factor (downstream) = $\frac{(1+i)^{n2} - 1}{n2 \times i}$
i	Roller chain loss factor
n	Total number of driven rollers
n1	Number of driven rollers (upstream)
n2	Number of driven rollers (downstream)
P	Chain pull (lb)
FPM	Conveyor speed (fpm)
W	Weight per foot (live load + dead load)

Chain Pull Calculations

Calculate the drive chain pull per the following formulas:

$$\text{End Drive: } P = \frac{L \times W \times Dr \times Fr \times Fc}{Ds}$$

$$\text{Center Drive: } P = \frac{W \times Dr \times Fr}{Ds} \times (L1 \times Fc1 + L2 \times Fc2)$$

Roller chain loss factor “i” will vary between 1% and 3% depending on service conditions. Use 1% for ideal conditions with well lubricated chain. Use 1.5% to 3% if operating conditions are severe and if proper chain lubrication and maintenance are not likely.

The drive and roller-to-roller chain pulls must be less than the working strengths of the chains. If the drive is located in the center of the conveyor, the drive pull will be twice the roller-to-roller chain pull. Locating the drive chain in the center minimizes the exponential losses in the chain loops. If the drive is located at the end of the conveyor, the drive chain pull will equal the roller-to-roller chain pull and the losses will be maximized.

Assumptions:

1. The total live load is uniformly distributed on all the rollers.
2. The load is imposed on each bearing by the driving chains is negligible except for the roller or rollers coupled to the drive.

3. The pull required to turn each roller results from a combined rolling resistance between the roller and bearing and roller and load.
4. The chain transmission factor is constant.
5. The conveyor is horizontal and level.
6. Loads are not rubbing guard rails or chain box.

Horsepower Calculations

The required drive horsepower may be calculated as follows:

$$HP = \frac{P \times FPM \times Ds}{33,000 \times Dr} = \text{Output Horsepower Required}$$

$$\text{Input Motor HP} = \frac{\text{Output Horsepower Required}}{\text{Reducer Efficiency}}$$

Note: Reducer Efficiency, consult reducer manufacturer's efficiency tables.

Example:

54 W x 70 foot long 2.50" RRCDLR, 45 FPM with drive located 30 feet from discharge end, 6" roller centers, 250 lbs./ft. live load, chain loss factor "i" = 1%, pitch diameter of 60A16 roller sprocket, Ds = 3.844", rolling resistance Fr = 5%.

$$L1 = 40 \text{ ft } n1 = 80 \text{ Ft } c1 = \frac{(1 + 0.01)^{80} - 1}{80 \times 0.01} = 152$$

$$L2 = 30 \text{ ft } n2 = 60 \text{ Ft } c1 = \frac{(1 + 0.01)^{60} - 1}{60 \times 0.01} = 1.36$$

Dead Load is given in the table on the next page as 41.1 lb./ft.

$$W = 250 + 41.1 = 291.1 \text{ lb./ft.}$$

$$P = \frac{2911 \times 2.5 \times 0.05}{3.844} \times [40 \times 152 + (30 \times 136)] = 962 \text{ lbs}$$

962 < 1000 lb. maximum pull for #60 chain i.e. chain size is OK.

$$HP = \frac{962 \times 45 \times 3844}{33,000 \times 2.5} = 2.02 \text{ Output HP required}$$

If reducer efficiency = 0.7, then

$$\text{Motor HP} = \frac{2.02}{0.7} = 2.88 \text{ use 3 HP}$$

Dead Loads

Roller to Roller Chain Driven Live Roller Conveyor 1.90" Dia. Roller								
Carrying Roller Centers	18" W lbs./ft.	21" W lbs./ft.	24" W lbs./ft.	27" W lbs./ft.	30" W lbs./ft.	33" W lbs./ft.	36" W lbs./ft.	39" W lbs./ft.
4"	15.3	16.9	18.5	20.0	21.6	23.2	24.7	26.3
6"	10.5	11.5	12.6	13.6	14.7	15.7	16.8	17.8
8"	8.1	8.9	9.6	10.4	11.2	12.0	12.8	13.6

Roller to Roller Chain Driven Live Roller Conveyor 2.50" Dia. Roller								
Carrying Roller Centers	18" W lbs./ft.	24" W lbs./ft.	30" W lbs./ft.	36" W lbs./ft.	42" W lbs./ft.	48" W lbs./ft.	54" W lbs./ft.	60" W lbs./ft.
4-1/2"	29.7	33.8	37.8	41.9	46.0	50.0	54.1	58.1
6"	22.8	25.8	28.9	31.9	35.0	38.0	41.1	44.1
7-1/2"	18.7	21.1	23.5	26.0	28.4	30.8	33.3	35.7
9"	15.9	17.9	20.0	22.0	24.0	26.1	28.1	30.1

Roller to Roller Chain Driven Live Roller Conveyor 2.563" Dia. Roller								
Carrying Roller Centers	18" W lbs./ft.	24" W lbs./ft.	30" W lbs./ft.	36" W lbs./ft.	42" W lbs./ft.	48" W lbs./ft.	54" W lbs./ft.	60" W lbs./ft.
4-1/2"	36.2	42.5	48.9	55.2	61.6	67.9	74.3	80.6
6"	27.7	32.4	37.2	42.0	46.7	51.5	56.2	61.0
7-1/2"	22.5	26.4	30.2	34.0	37.8	41.6	45.4	49.2
9"	19.1	22.3	25.5	28.7	31.8	35.0	38.2	41.4

Roller to Roller Chain Driven Live Roller Conveyor 3.50" Dia. Roller										
Carrying Roller Centers	18" W lbs./ft.	24" W lbs./ft.	30" W lbs./ft.	36" W lbs./ft.	42" W lbs./ft.	48" W lbs./ft.	54" W lbs./ft.	60" W lbs./ft.	66" W lbs./ft.	72" W lbs./ft.
6'	47.3	57.6	67.8	78.1	88.3	98.6	108.8	119.1	129.3	139.5
9"	32.2	39.1	45.9	52.7	59.6	66.4	73.2	80.1	86.9	93.7
12"	24.7	29.8	34.9	40.1	45.2	50.3	55.4	60.6	65.7	70.8

Reducers have inherent inefficiencies due to design. These inefficiencies vary and the output horsepower from the reducer is less than the input horsepower of the motor.

Use the Horsepower calculation and select the next highest standard horsepower motor for the RPM output required from the Horsepower chart.

Typical Worm Gear / Reducer Horsepower Output								
Motor HP	Reducer RPM Output							
	22	29	43	58	69	86	99	115
1/2	.30	.30	.33	.35	.38	.39	.40	.39
3/4	.59	.63	.52	.53	.57	.58	.59	.62
1	.79	.84	.69	.76	.81	.78	.79	.85
1-1/2	1.19	1.25	1.29	1.30	1.22	1.26	1.28	1.28
2	1.58	1.67	1.72	1.72	1.81	1.82	1.70	1.72
3	2.58	2.50	2.18	2.18	2.27	2.53	2.35	2.59
5	4.07	3.10	4.33	4.01	4.10	4.25	4.08	4.37

After having determined the chain pull, you should check that figure against the chart below, which shows allowable chain pull, to make sure you are not exceeding the capacity of the chain.

If you have exceeded the capacity, you need to upgrade to a larger chain size (if available as standard), shorten the conveyor, or decrease the live load.

Maximum Allowable Chain Pull (lbs.)			
Chain No.	Conveyor Speed (FPM)		
	0 - 60	*80	**100
40	560#	500#	450#
50	875#	800#	750#
60	1200#	1075#	1000#
80	2100#	1950#	

*Suggested Maximum Speed for Continuous Strand

**Suggested Maximum Speed for Roller to Roller

Note: At higher speeds, noise level may be a consideration.

Service Factors

Use the chart below to apply service factors. Reducers must be sized to accept the input motor HP and upgraded by the desired service factor(s).

Likewise, service factors must be applied to the chain pull. The allowable chain pull is divided by the appropriate service factors.

Conditions	Service Factor	
	8 - 10 Hours/Day	16 - 24 Hours/Day
Intermittent Load	.8	1.0
Even Load	1.0	1.2
Stopping or Reversing	1.2	1.4
Heavy Unit Loads	1.2	1.4
No Lubrication	1.2	1.4
Dirty Conditions	1.2	1.4
Moisture	1.2	1.4

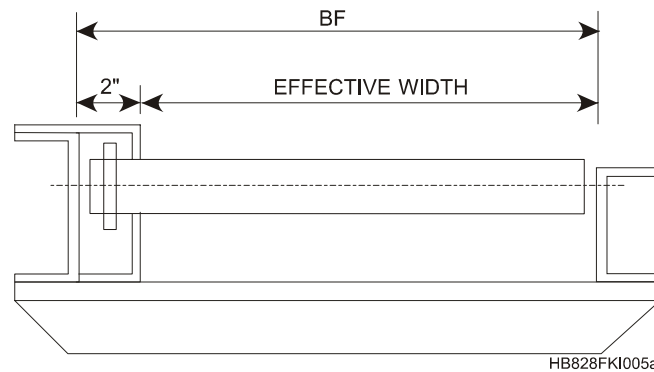
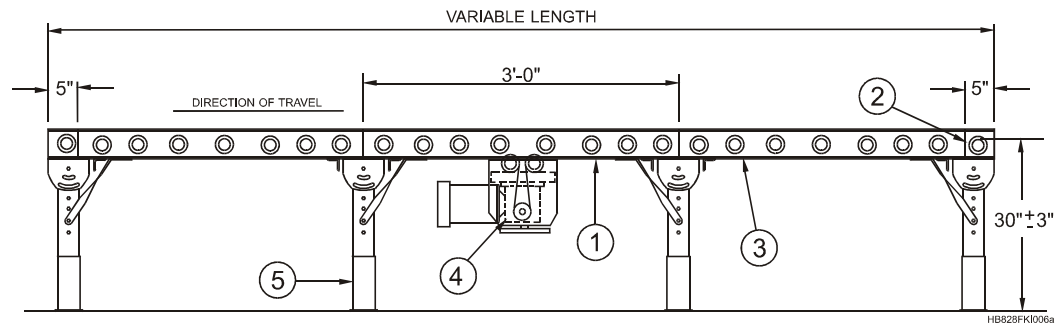
Single Strand CDLR

Units

Intermediate Drive - Model LRSS

HOW TO ORDER

Quantity	Model No.	W	Variable Length	HP	Centers	Options
2	LRSS	35"	39'-10"	1/2	4-1/2"	---



Basic Data	
1	C571 Drive Section, 1.90" x .148" (9 ga.) Rollers
2	C127 End Roller Unit
3	C572 Conveyor Section
4	Motor/Reducer, HP as required, totally enclosed, 50 FPM
5	C1231 Floor Supports with Knee Braces

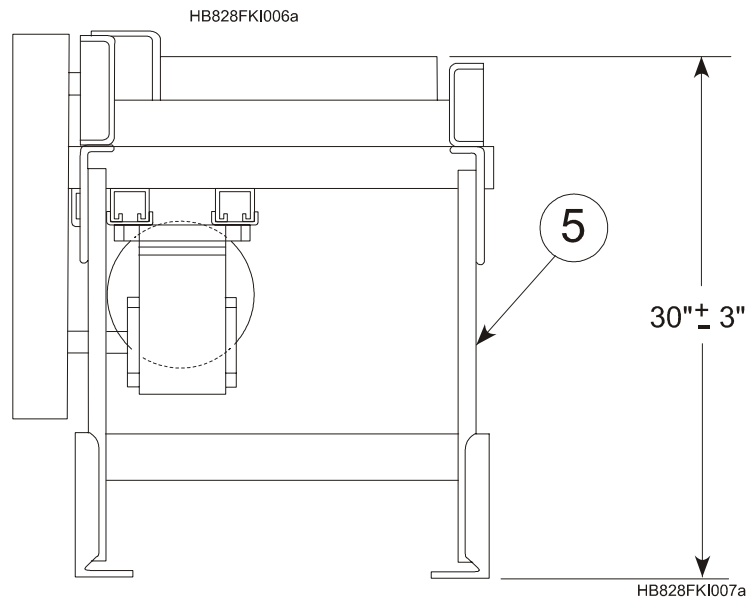
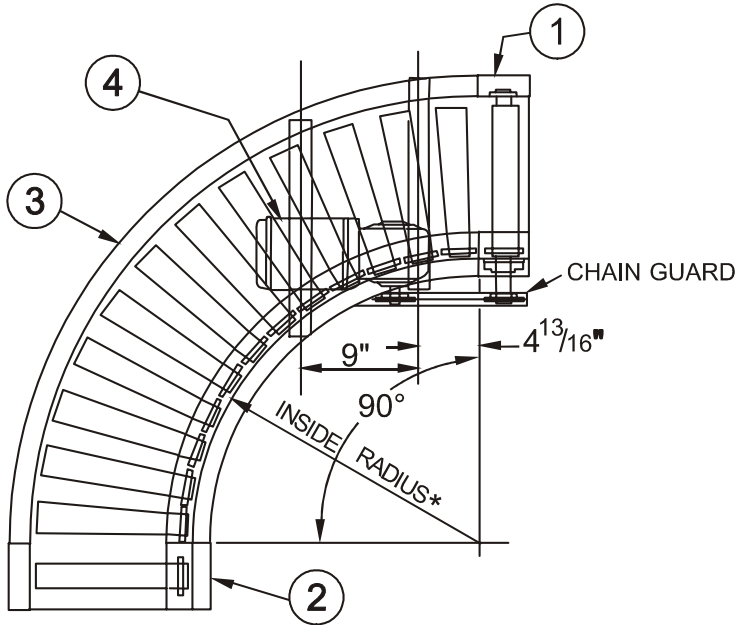
For Chain Pull and Horsepower Calculations, see the Engineering Data section.

CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying width = W - 2".
DRIVE	Standard - Intermediate type with direct sprocket connection to single strand driving chain.
END ROLLER	Standard - 2.56" dia. x .180" (7 ga.) steel roller with grease packed bearings and 11/16" hex axle.
CONVEYOR SECTION	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 1.90" dia. x .148" (9 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles on 4-1/2" or 6" centers. One (1) 50A14 rack tooth sprocket welded to each roller. Rollers are mounted 3/8" high on one side.
CHAIN	Standard - #50 side bow chain.
SUPPORTS	Standard - Floor type on maximum 10'-0" centers for a conveying height of 27" to 333" (1500# capacity). Option - Other floor supports are available (see Supports section).
MOTOR / REDUCER	Standard - Right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM.
LENGTHS	Option - Intermediate lengths are available in increments of roller centers only (see Components section).
SIDE GUARDS	Option - Standard angle or channel guards available (see Accessories section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

End Drive - Model LRSC

HOW TO ORDER

Quantity	Model No.	W	HP	Options
1	LRSC	29"	1/2	---



Note: See the C557 Curve topic in this section

Basic Data	
1	C573 Drive Section
2	C127 End Roller
3	C557 - 90° Curve, 2.50" x 1.69" Tapered Rollers
4	Motor/Reducer, HP as required, totally enclosed, 50 FPM
5	C1231 Floor Supports (2) and (1) C1230 Single Leg Support

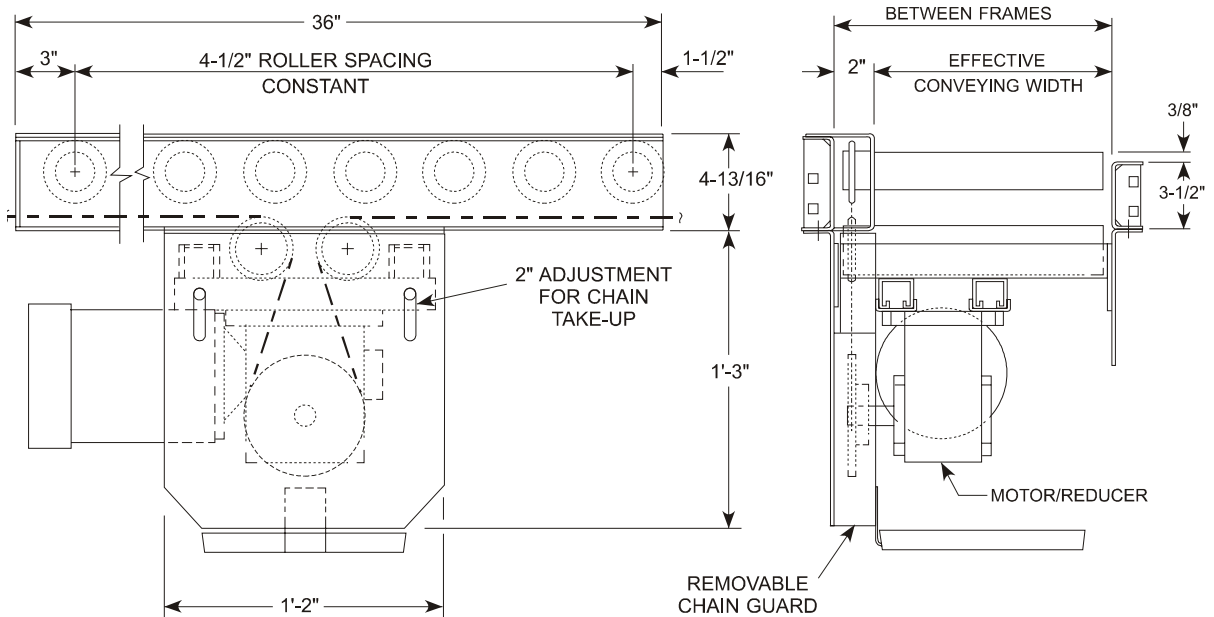
CAPACITY	Standard - 300 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying width = W - 2".
DRIVE	Standard - End type with chain and sprocket connection to 2.56" dia. x .180" (7 ga.) roller.
END ROLLER	Standard - 2.56" dia. x .180" (7 ga.) steel roller with grease packed bearings and 11/16" hex axle.
CURVED CONVEYOR SECTION	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side. Option - Available in 45° and 60° segments.
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 2.50" to 1.69" dia. tapered rollers x .065" (16 ga.) steel with B1020-2 grease packed bearings and 7/16" hex spring loaded axles. One (1) 50A13 rack tooth sprocket welded to small end. Rollers are mounted 3/8" high on one side.
CHAIN	Standard - #50 side bow chain.
SUPPORTS	Standard - Floor type for conveying height of 27" to 33" (1500 lbs. capacity). Option - Other supports, hanger or floor type are available (see Supports section).
MOTOR / REDUCER	Standard - 1/2 HP right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM.
SIDE GUARDS	Option - Standard angle guards available (see Accessories section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Components

C571 Intermediate Drive

HOW TO ORDER

Quantity	Code No.	W	HP	Speed	Voltage	Options
2	C571	17"	1/2	70	230	---



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Standard Available Speeds

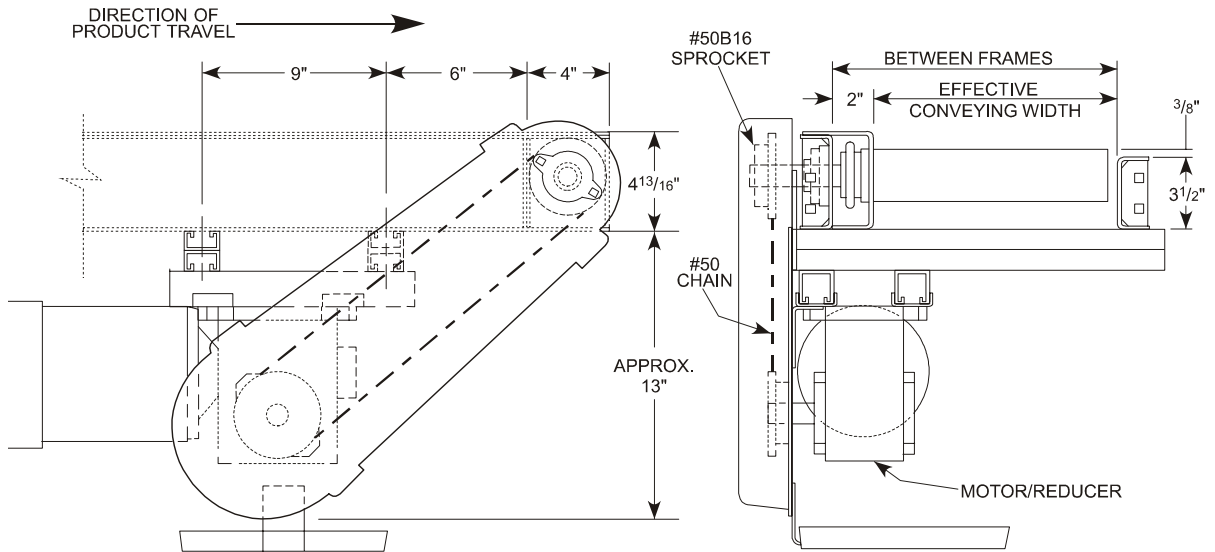
FPM	Reducer RPM	Reducer Sprocket	1.90" Roll Sprocket
25	43	50B16	50A14
30	43	50B20	50A14
40	43	50B26	50A14
50	86	50B16	50A14
60	86	50B20	50A14
70	86	50B23	50A14
85	86	50B28	50A14
110	173	50B18	50A14

CAPACITY	Standard - 500 lbs. effective chain pull, 1-1/2 HP maximum.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames Effective Conveying Width = W - 2".
DRIVE	Standard - Drive includes 3'-0" of conveyor tread. This drive is reversible.
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 1.90" dia. x .148" (9 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles on 4-1/2" centers. One (1) 50A14 sprocket welded to each roller.
CHAIN	Standard - #50 side bow chain.
CHAIN COVER	Standard - Totally enclose scalloped chain guard.

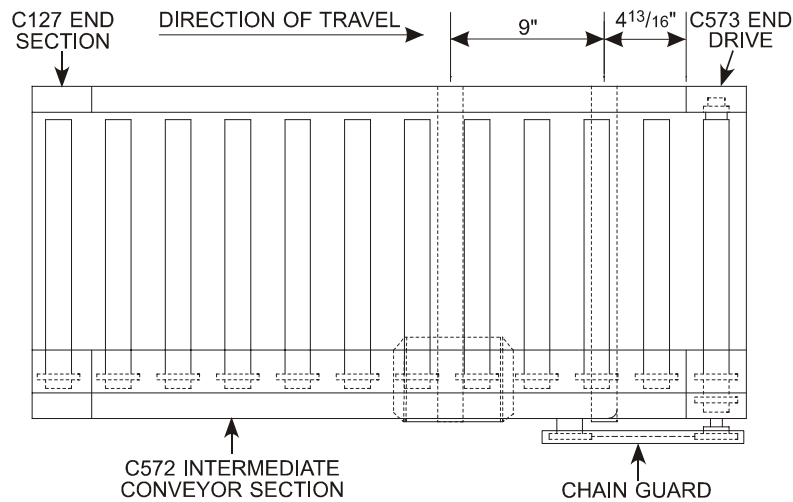
C573 End Drive

HOW TO ORDER

Quantity	Code No.	W	HP	Speed	Voltage	Options
1	C573	29"	1/2	60	230	---



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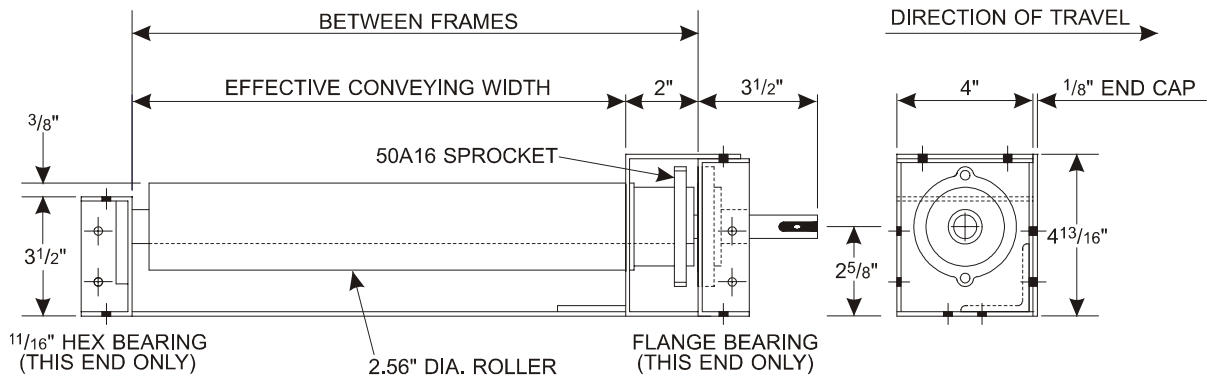
Standard Available Speeds		
Speed FPM	Reducer RPM	Reducer Sprocket
25	43	50B16
30	43	50B20
40	43	50B26
50	86	50B16
60	86	50B20
70	86	50B23
85	86	50B28
110	173	50B18

CAPACITY	Standard - 300 lbs. effective chain pull, 1-1/2" HP maximum.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying Width = W - 2".
DRIVE	Standard - This drive should be used for single direction only and would be placed at the discharge end of the conveyor. Drive is furnished "as shown" for position of shaft, etc. Option - For "opposite hand", specify under Options in How To Order.
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 2.56" dia. x .180" (7 ga.) steel with 11/16" hex stub shaft on one end and 1" dia. stub shaft on the opposite end.
CHAIN	Standard - #50 side bow chain.
CHAIN COVER	Totally enclosed scalloped chain guard.

C559 End Drive

HOW TO ORDER

Quantity	Code No.	W	Options
1	C559	17"	---



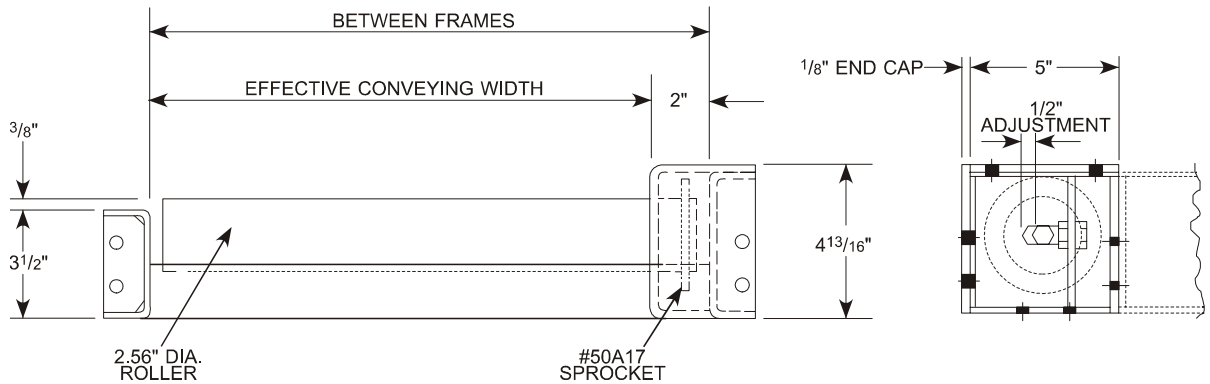
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CAPACITY	Standard - 300 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying width = W - 2"
DRIVE	Standard - This drive should be used for single direction only and would be placed at the discharge end of the conveyor. Drive is furnished "as shown" for position of shaft, etc. Option - For "opposite hand", specify under Options in How To Order.
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 2.56" dia. x .180" (7 ga.) steel with 11/16" hex stub shaft on one end and 1" dia. stub shaft on the opposite end.
CHAIN COVER	Standard - Totally enclosed scalloped chain guard.

C127 End Section

HOW TO ORDER

Quantity	Code No.	W	Options
2	C127	29"	---

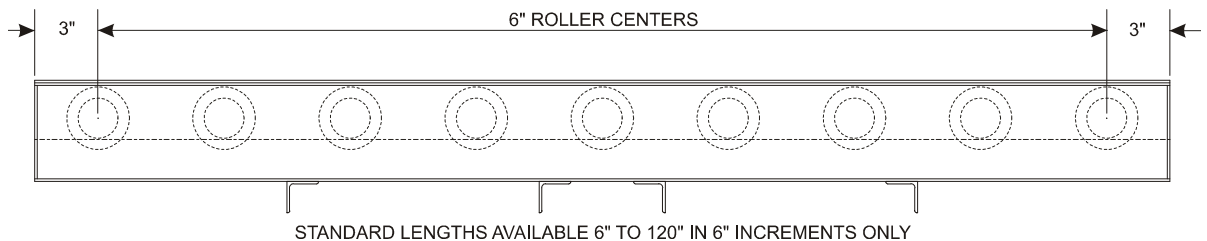
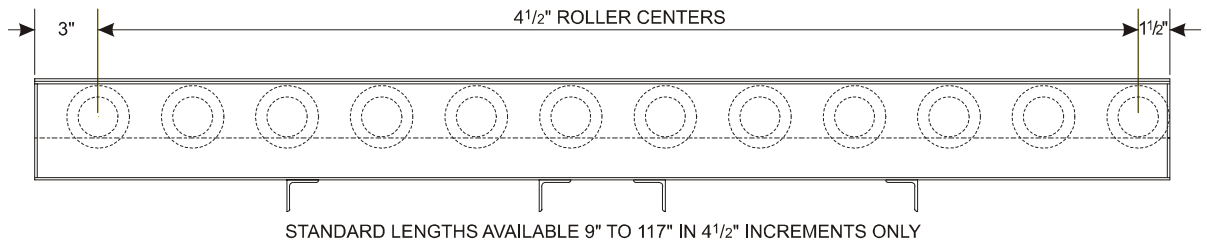
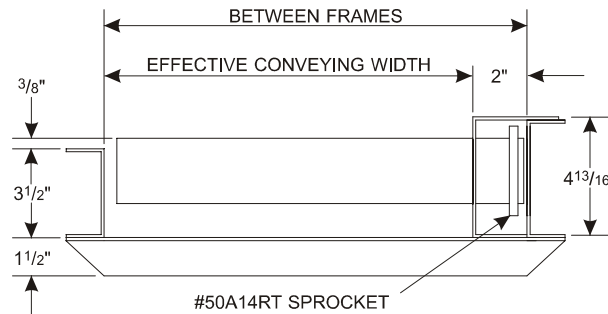


CAPACITY	Standard - 500 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying Width = W - 2".
END SECTION	Standard - This end section is furnished "as shown" for position of sprocket, etc. Option - For "opposite hand", specify under Options in How To Order.
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120 formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 2.56" dia. x .180" (7 ga.) steel with 11/16" hex axle.

C572 Intermediate Tread Sections

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers
1	C572	29"	120"	6"



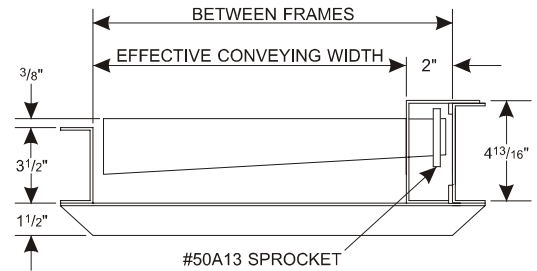
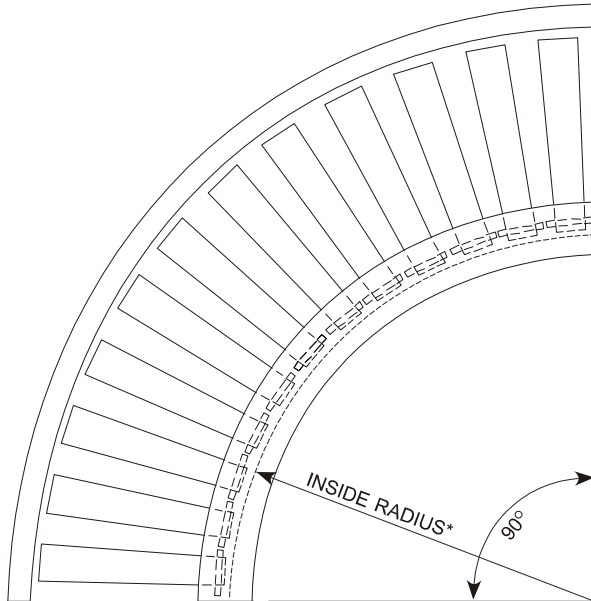
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CAPACITY	Standard - 500 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying Width = W - 2".
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 1.90" dia. x .148" (9 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles. One (1) 50A14 rack tooth sprocket welded to each roller.
ROLLER SPACING	Standard - 4-1/2" or 6".
CHAIN	Standard #50 side bow chain.
CHAIN COVER	Standard - Totally enclosed scalloped chain guard.

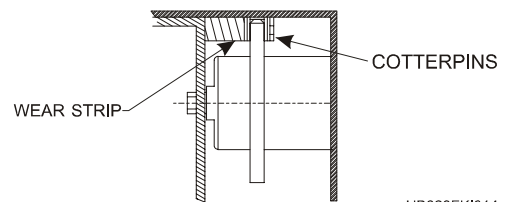
C557 Curve

HOW TO ORDER

Quantity	Code No.	W	Degree
1	C557	35"	90°



NOTE:
CONNECTING LINK COTTERPINS
MUST BE OUTSIDE OF CHAIN
AS SHOWN ON SKETCH



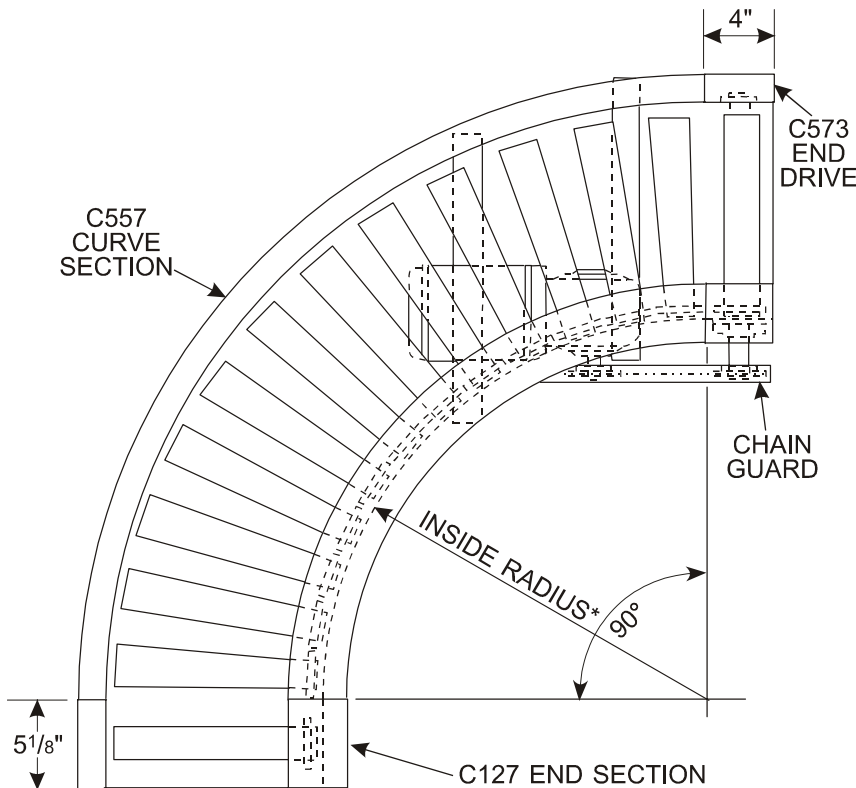
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Between Frames	*Inside Radius	Centerline Radius	No. of rollers in 90°	Roller Centers		
				Inside	Centerline	Outside
17"	2'-10-3/8"	3'-7-7/8"	18	3.17"	3.83"	4.48"
23"	3'-9-7/8"	4'-10-3/8"	24	3.13"	3.82"	4.50"
29"	4'-9-5/16"	6'-13/16"	30	3.10"	3.81"	4.52"
35"	5'-8-3/4"	7'-3-1/4"	36	3.09"	3.81"	4.53"
41"	6'-8-1/8"	8'-5-5/8"	42	3.07"	3.80"	4.54"

CAPACITY	Standard - 100 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying Width = W - 2"
CURVE	Standard - 90° Option - 30°, 45° or 60° are available.
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the inside rail. 3-1/2" x 1-1/2" x .120" formed steel channel on the outside rail.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 2.50" to 1.69" tapered roller x .065" (16 ga.) steel with B1020-2 grease packed bearings and 7/16" hex spring loaded axles. One (1) 50A13 rack tooth sprocket welded to each roller.
'CHAIN	Standard - #50 side bow chain.
CHAIN COVER	Standard - Totally enclosed scalloped chain guard.

Note: A full width support is required on all curves.

Shown below are "Typical" arrangement of the C557 Curve when use with other components.



The conveyor illustrated consists of one C127 end section, one C557 curved section and one C573 end drive.

Straight intermediate section (type C572) can be added between curve and end section or between curve and drive.

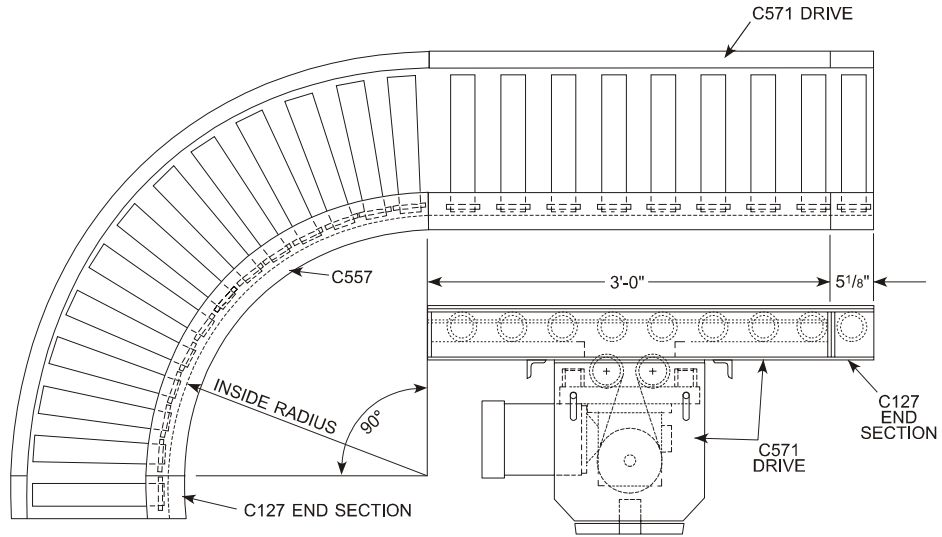
The straight conveyor at the receive end of the curve should be limited to 100# effective chain pull to minimize resultant pull through curve. The drive should be at the discharge end and the straight discharge conveyor can utilize the full capacity of the chain.

Not Recommended For Reversing Service

The conveyor pictured on the following page consists of two C127 end section, one C557 curved section and one C571 drive (includes 3'-0" straight section).

Straight intermediate sections (type C572) can be added between curve and end section or between curve and drive.

The straight conveyor at the receive end of the curve should be limited to 100# effective chain pull to minimize resultant pull through curve. The drive should be near the discharge end and the straight discharge conveyor can utilize the full capacity of the chain.

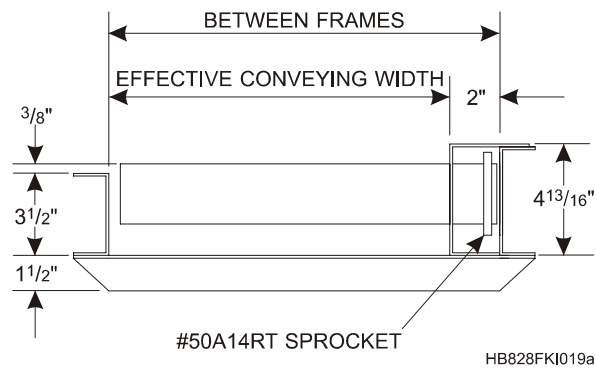
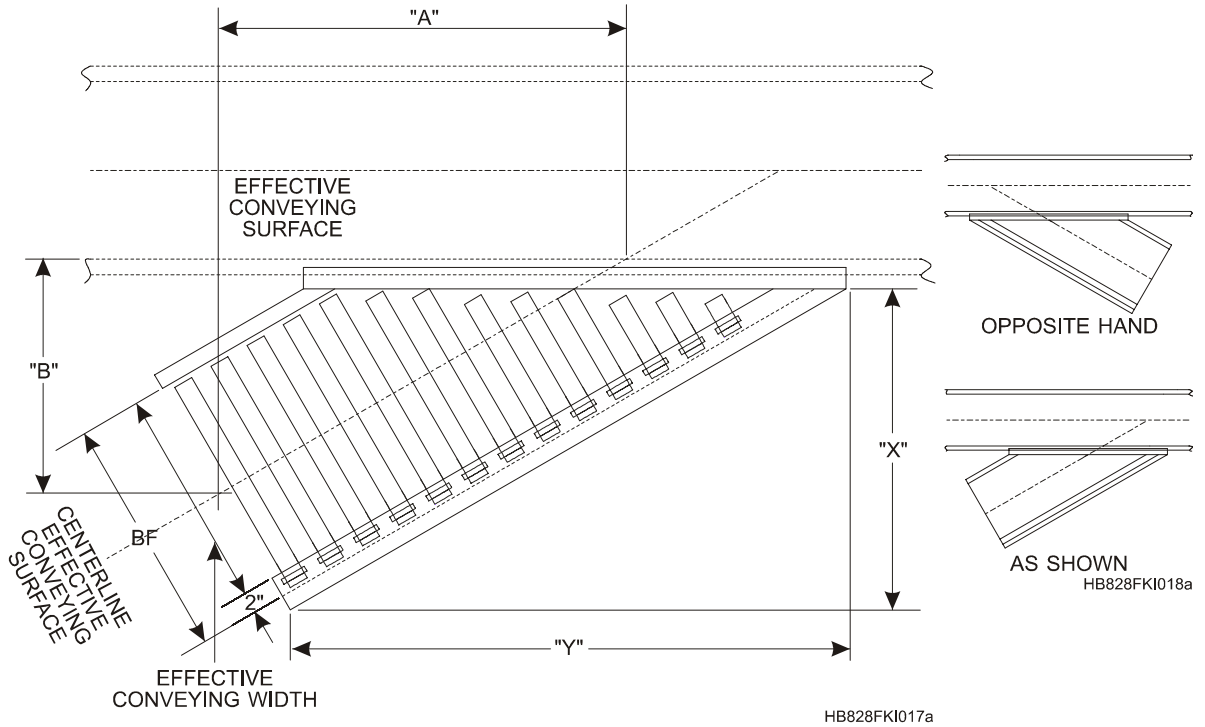


Full Width Support Required At Center of Curve

C546 - 30° Spur

HOW TO ORDER

Quantity	Code No.	W	Options
1	C546	23"	---



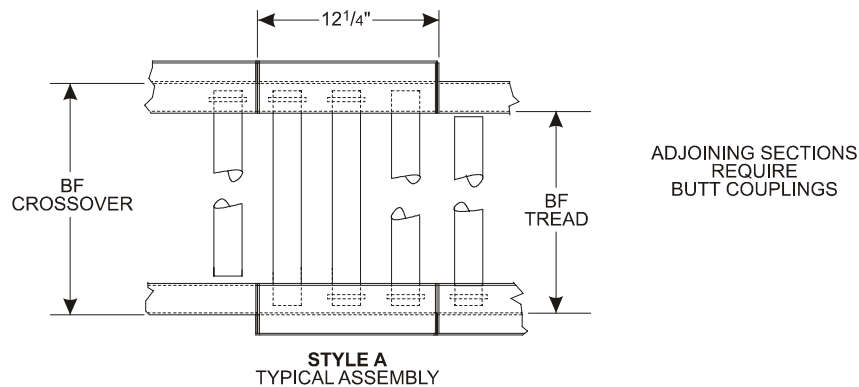
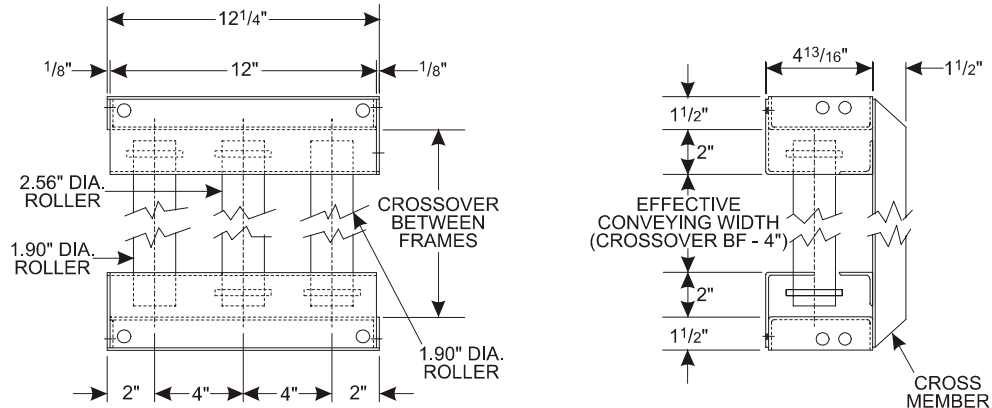
Between Frames	"A"	"B"	"X"	"Y"
17"	2'-6-1/2"	1'-5-5/8"	2'-1-5/8"	3'-8-1/4"
23"	2'-11"	1'-8-1/4"	2'-6-3/4"	4'-5-1/4"
29"	3'-3-1/2"	1'-10-13/16"	2'-11-7/8"	5'-2-1/4"
35"	3'-8"	2'-1-7/16"	3'-5-1/8"	5'-11-1/4"
41"	4'-1/2"	2'-4"	3'-10-3/8"	6'-8-1/4"

CAPACITY	Standard - 300 lbs. effective chain pull.
CONVEYOR WIDTH	Standard - 17", 23", 29", 35" and 41" Between Frames. Effective Conveying With = W - 2"
FRAME	Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on the chain side. 3-1/2" x 1-1/2" x .120" formed steel channel on the opposite side.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - 1.90" dia. x .148" (9 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles.
CHAIN	Standard - #50 side bow chain.
SPUR	Standard - This spur is furnished "as shown" for position of sprocket, chain guard, etc. Option - For "opposite hand", specify under Options in How To Order.
CHAIN COVER	Standard - Totally enclosed scalloped chain guard.

C547 - Power Crossover Section

HOW TO ORDER

Quantity	Code No.	Crossover W
1	C547	19"



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Standard Widths					
Crossover W	19"	25"	31"	37"	43"
To Match Conveyor W	17"	23"	29"	35"	41"
Effective Conveying Width	15"	21"	27"	33"	39"

- FRAME** Standard - 4-5/8" x 1-1/2" x .120" formed steel channel on both sides.
- ROLLERS** Standard - Two outside rollers are 1.90" dia. x .148" (9 ga.) steel with B1020-2 grease packed bearings and 7/16" hex axles. One (1) 50A14 rack tooth sprocket is welded to one end. One center roller is 2.56" x .180" (7 ga.) steel with B1064-2 grease packed bearings and 11/16" hex axle. One (1) 50A17 sprocket is welded to each end.
- COUPLINGS** Standard - Welded butt.
- CHAIN** Standard - #50 side bow chain.
- CHAIN COVER** Standard - Totally enclosed scalloped chain guard.

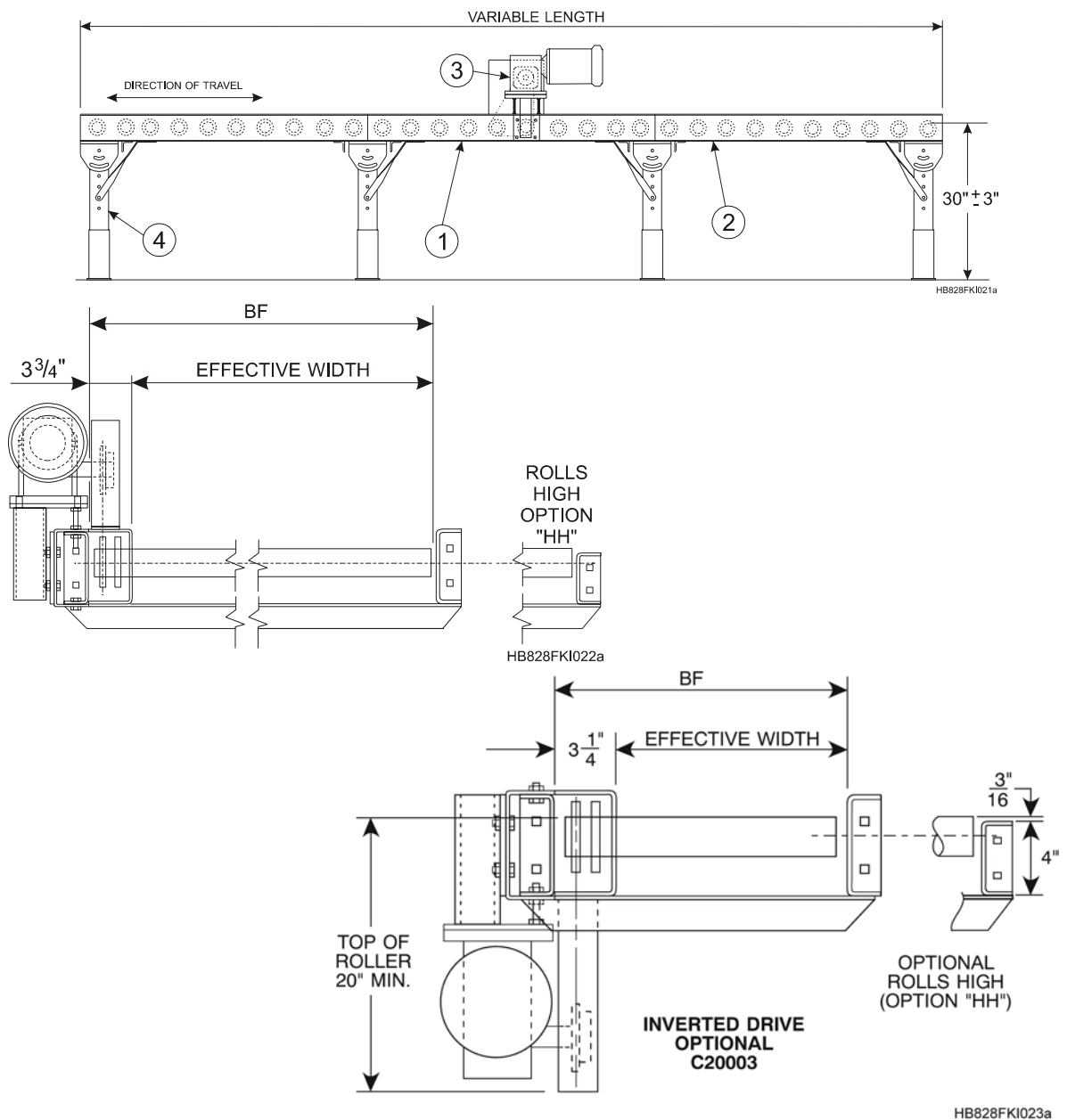
Roller To Roller CDLR

Units

Model RRCD190

HOW TO ORDER

Quantity	Model No.	W	Variable Length	HP	Options
1	RRCD190	27"	40'-0"	1/2	6" centers



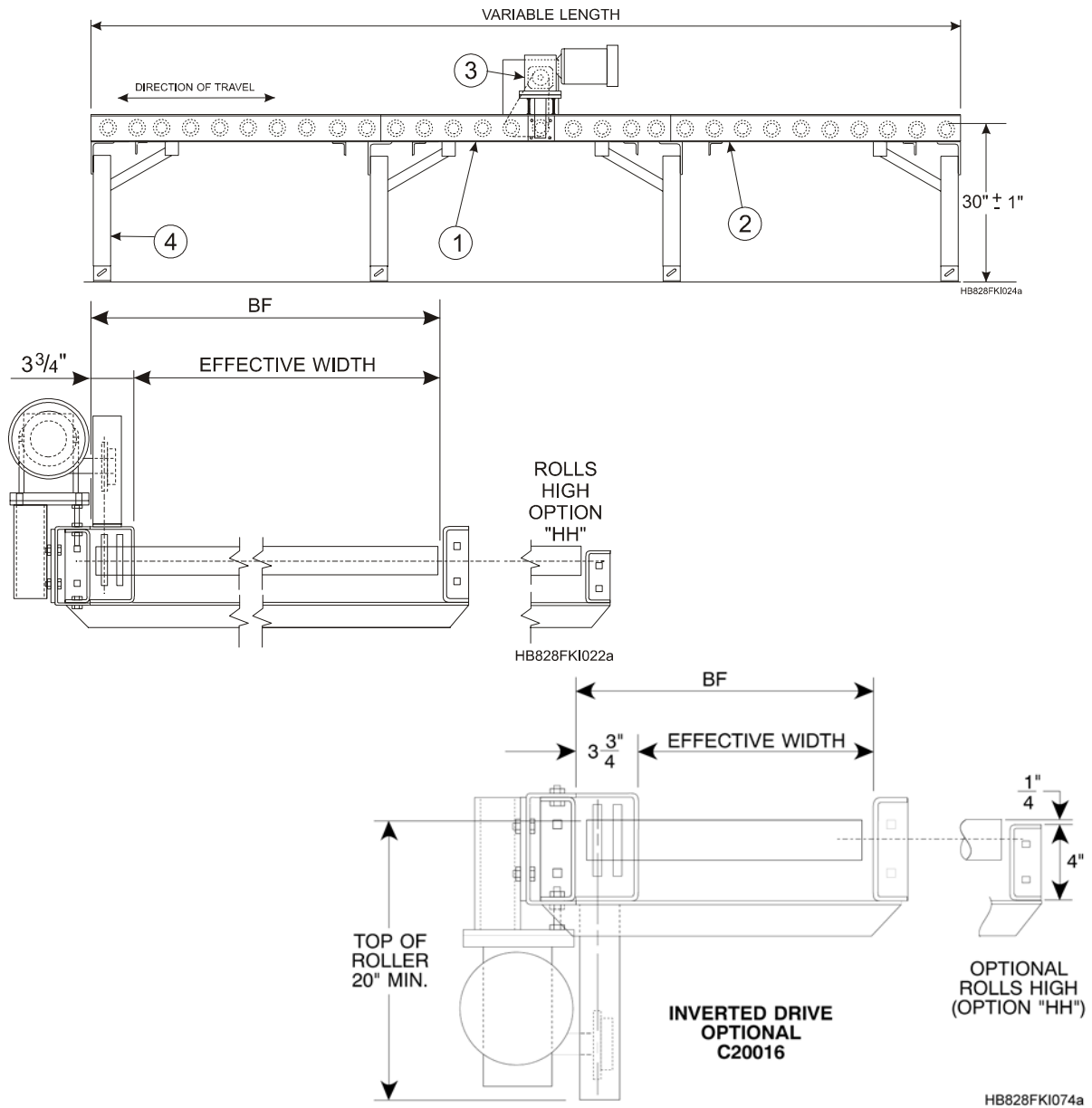
Basic Data	
1	C20002 Drive Section, 190" x .109" (12 ga.) Rollers
2	C20000 Intermediate Section
3	Motor/Reducer, HP as required, totally enclosed, 50 FPM
4	C681 Floor Supports - 26" Nominal height
5	C20003 Inverted Drive (Optional)

CONVEYOR WIDTH	Standard - 18" thru 39" Between Frames in 3" increments. Effective width = W - 3-1/4"
DRIVE SECTION	Standard - Intermediate type with roller to roller chain connection. Motor/Reducer mounted above the conveyor section as standard. Option - Motor/Reducer available in inverted position. Specify "with C20003" under options.
CONVEYOR TREAD SECTION	Standard - 5" x 2" x .180" (7 ga.) formed steel channel on both sides, rollers low.
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 1.90" dia. x .109" (12 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles on 4" centers. Two (2) 40A18 sprockets welded to each roller. Rollers are mounted 13/16" low. Option - Rollers are also available on 6" or 8" centers (see Components section). Regreaseable bearings are also available.
ROLLERS SHIGH	Option - 5" x 2" x .180" (7 ga.) formed steel channel on the chain side and 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side is available (see Components section).
CHAIN	Standard - #40 roller chain. For chain pull calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
SUPPORTS	Standard - floor type on maximum 10'-0" center for a conveying height of 30" (3000# capacity). Option - Other floor supports are available (see Supports section).
MOTOR/REDUCER	Standard - Right angle reducer, 3 phase, 60 hertz, 230/460 volts, totally enclosed motor, for 50 FPM. Option - Other motors and reducers are available as load and speed change (see Components section). For HP calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
LENGTHS	Option - Intermediate lengths are available in increments of two times the roller centers only (see Components section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Model RRCD250

HOW TO ORDER

Quantity	Model No.	W	Variable Length	HP	Options
1	RRCD250	30"	30'-0"	1	6" Centers



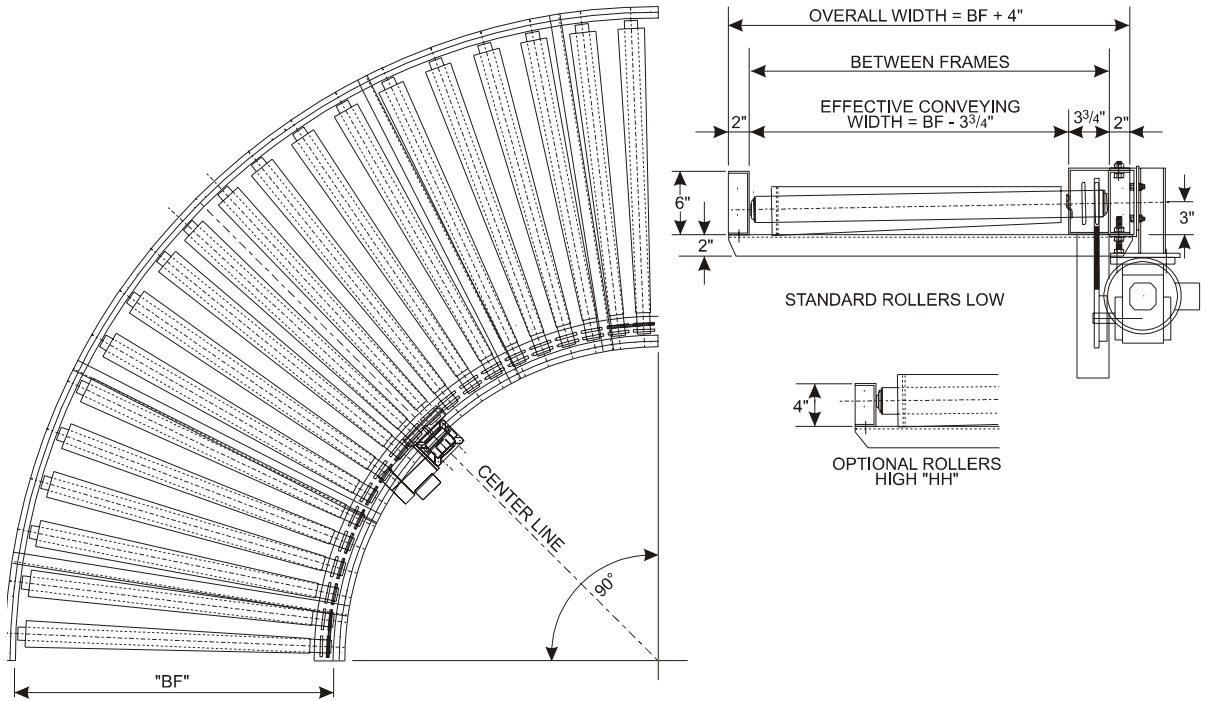
Basic Data	
1	C20014 Drive Section, 2.50" x .120" (11 ga.) Rollers
2	C20010 Intermediate Section, 6" x 2" x 7 ga. formed channel
3	Motor/Reducer, HP as required, totally enclosed, 50 FPM
4	C699 Floor Supports - 26" Nominal Height
5	C20016 Inverted Drive (Optional)

CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = W - 3-3/4".
DRIVE SECTION	Standard - Intermediate type with roller to roller chain connection. Motor/Reducer mounted above the conveyor section as standard. Option - Motor/Reducer available in inverted position. Specify "with C20016" under options.
CONVEYOR TREAD SECTION	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides, rollers low. Option - Also available with structural channel frame (see Components section).
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles on 4-1/2" centers. Two (2) 60A15 sprockets welded to each roller. Rollers are mounted 1-3/4" low. Option - Rollers are also available on 6", 7-1/2" or 9" centers (see Components section). Regreaseable bearings are also available.
ROLLERS HIGH	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side is available (see Components section).
CHAIN	Standard - #60 roller chain. For chain pull calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
SUPPORTS	Standard - Floor type on maximum 10'-0" centers for a conveying height of 30" (6000# capacity). Option - Other floor supports are available (see Supports section).
MOTOR/REDUCER	Standard - Right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM. Option - Other motors and reducers are available as load and speed change (see Components section). For HP calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
LENGTHS	Option - Intermediate lengths are available in increments of two times the roller centers only (see Components section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Model TTRC250 True Tapered Curve

HOW TO ORDER

Quantity	Model No.	W	Style	HP	Options
1	TTRC250	30"	1	1	"RG"



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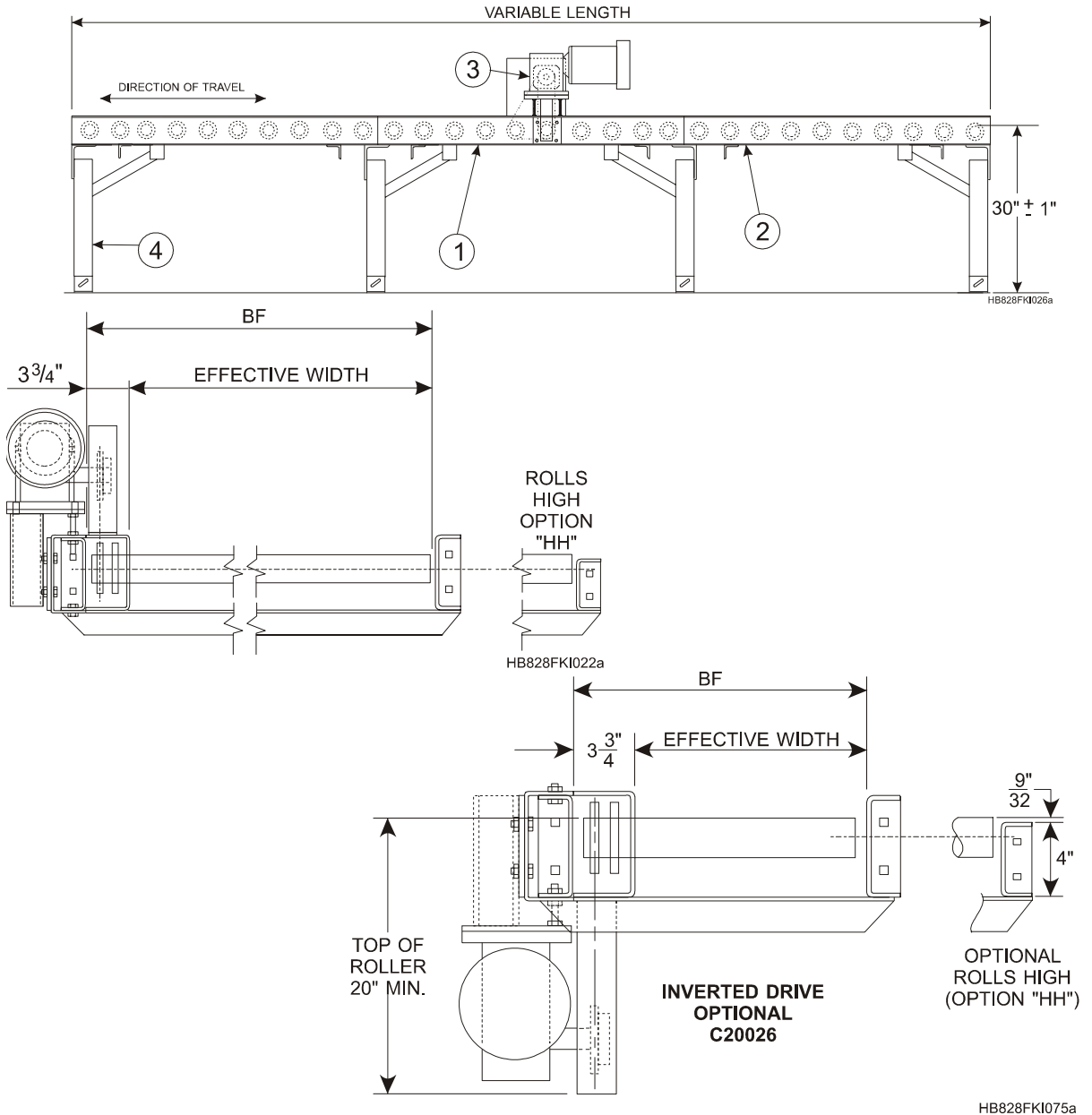
W	Dia. Large End	W	Dia. Large End
24"	3.910"	48"	4.547"
30"	4.268"	54"	4.799"
36"	4.627"	60"	5.000"
42"	4.985"		

CONVEYOR WIDTH	Standard - 24" thru 60" Between Frames in 6" increments. For 24" to 42" W, the Inside Radius = 42". For 48" to 60" W, the Inside Radius = 61". Effective Conveying Width = $W - 3\text{-}3/4"$.
DRIVE SECTION	Standard - Intermediate type with roller to roller chain connection. Motor/Reducer mounted above the conveyor section (Style 1) or below the conveyor section (Style 2). 3 HP motors or motors with brakes must be mounted below the conveyor section.
CURVED CONVEYOR SECTION	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides, rollers low.
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles on fixed centers. Two (2) 60A15 sprockets welded to each roller. Rollers are mounted 1-3/4" low. Rollers have a welded 11 ga. true tapered shell. Option - Regreaseable bearings are available (add "RG" under Options in How To Order).
ROLLERS HIGH	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side is available (see Components section).
CHAIN	Standard - #60 roller chain. For chain pull calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
SUPPORT	Standard - Floor type on maximum 10'-0" centers for a conveying height of 30" (6000# capacity). Option - Other floor supports are available (see Supports section).
MOTOR/REDUCER	Standard - Right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM. Option - Other motors and reducers are available as load and speed change (see Components section). For HP calculations, see Engineering Data section, Horsepower Calculations topic.
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Model RRCD256

HOW TO ORDER

Quantity	Model No.	W	Variable Length	HP	Options
1	RRCD256	30"	30'-0"	3/4	6" Centers



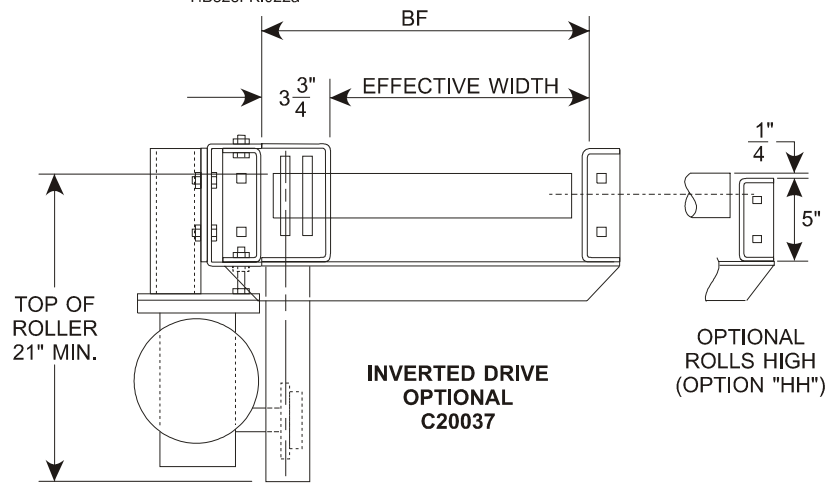
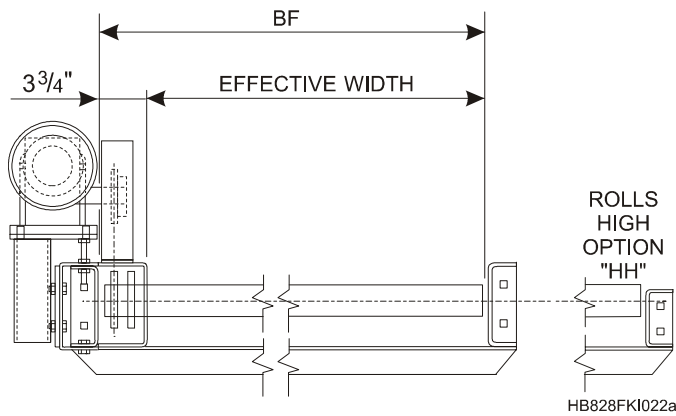
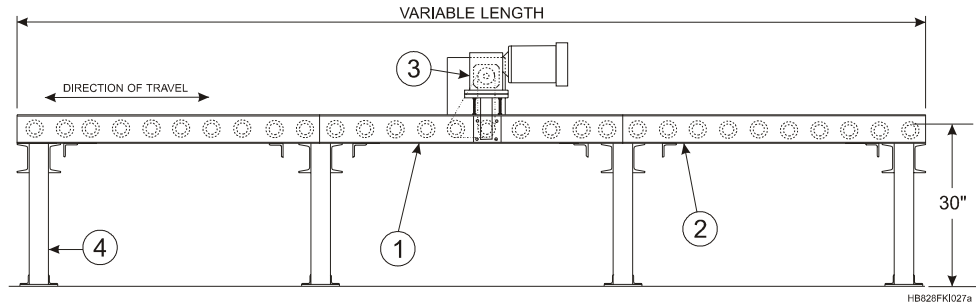
Basic Data	
1	C20024 Drive Section, 2.56" x .180" (7 ga.) Rollers
2	C20020 Intermediate Section, 6" x 2" x 7 ga. formed channel
3	Motor/Reducer, HP as required, totally enclosed, 50 FPM
4	C699 Floor Supports - 26" Nominal Height
5	C20026 Inverted Drive (Optional)

CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = W - 3-3/4".
DRIVE SECTION	Standard - Intermediate type with roller to roller chain connection. Motor/Reducer mounted above the conveyor section as standard. Option - Motor/Reducer available in inverted position. Specify "with C20026" under options.
CONVEYOR TREAD SECTION	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides, rollers low. Option - Also available with structural channel frame (see Components section).
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 2.56" dia. x .180" (7 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles on 4-1/2" centers. Two (2) 60A15 sprockets welded to each roller. Rollers are mounted 1-3/4" low. Option - Rollers are also available on 6", 7-1/2" or 9" centers (see Components section). Regreaseable bearings are also available.
ROLLERS HIGH	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side is available (see Components section).
CHAIN	Standard - #60 roller chain. for chain pull calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
SUPPORTS	Standard - Floor type on maximum 10'-0" centers for a conveying height of 30" (6000# capacity). Option - Other floor supports are available (see Supports section).
MOTOR/REDUCER	Standard - right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM. Option - Other motors and reducers are available as load and speed change (see Components section). For HP calculations, see Engineering Data section, Horsepower Calculations topic.
LENGTHS	Option - Intermediate lengths are available in increments of two times the roller centers only (see Components section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Model RRCD350

HOW TO ORDER

Quantity	Model No.	W	Variable Length	HP	Options
1	RRCD350	66"	50'-0"	3	6" Centers



Basic Data	
1	C20036 Drive Section, 3.50" x .300" wall Rollers
2	C20030 Intermediate Section, 7" x 2" x 7 ga. formed channel
3	Motor/Reducer, HP as required, totally enclosed, 50 FPM
4	C1570 Floor Supports
5	C20037 Inverted Drive (Optional)

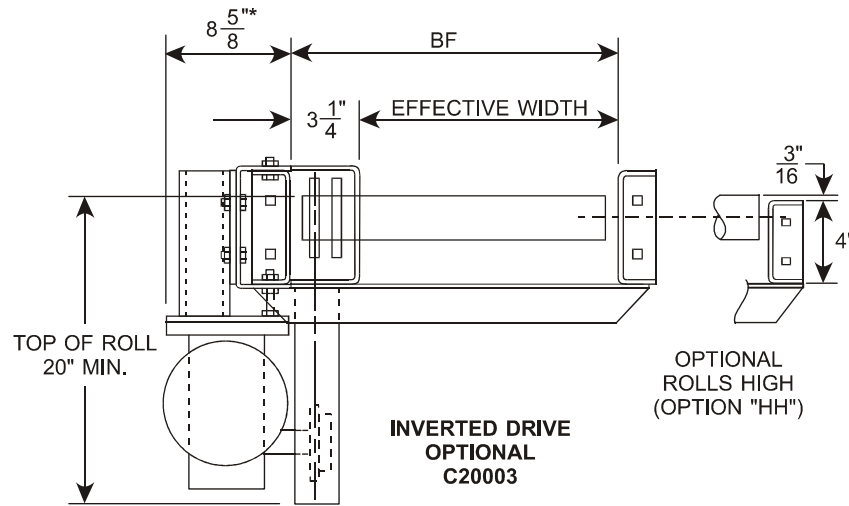
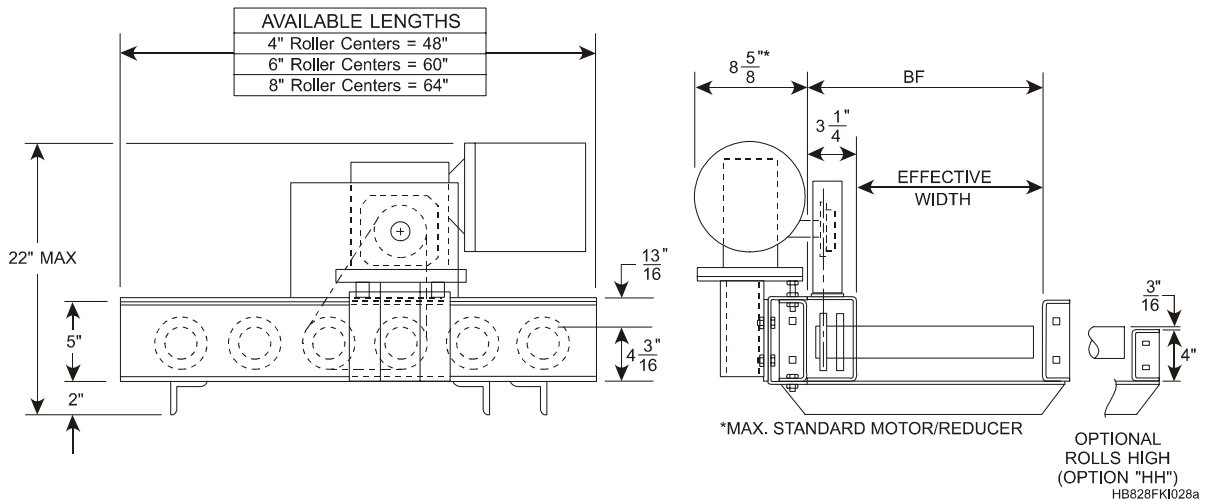
CONVEYOR WIDTH	Standard - 18" thru 72" Between Frames in 3" increments. Effective Conveying Width = W - 3-3/4".
DRIVE SECTION	Standard - Intermediate type with roller to roller chain connection. Motor/Reducer mounted above the conveyor section as standard. Option - Motor/Reducer available in inverted position. specify "with C20037" under options.
CONVEYOR TREAD SECTION	Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Also available with structural channel frame (see Components section).
COUPLINGS	Standard - Welded butt.
CARRYING ROLLERS	Standard - 3.50" dia. x .300" wall steel rollers with B1084-2 grease packed bearings and 1-1/16" hex axles on 6" centers. Two 92) 60A20 sprockets welded to each roller. Rollers are mounted 1-3/4" low. Option - rollers are also available on 9" or 12" centers (see Components section). Regreaseable bearings are also available.
ROLLERS HIGH	Option - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side and 5" x 2" x 180" (7 ga.) formed steel channel on the opposite side is available (see Components section).
CHAIN	Standard - #60 roller chain. For chain pull calculations, see Engineering Data section, Chain Pull and Horsepower Calculations topic.
SUPPORTS	Standard - Floor type on approximate 5'-0" centers for a conveying height of 30" (12,000# capacity). Option - Other floor supports are available (see Supports section).
MOTOR/REDUCER	Standard - Right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, for 50 FPM. Option - Other motors and reducers are available as load and speed change (see Components section). For HP calculations, see Engineering Data section, Horsepower Calculations topic.
LENGTHS	Option - Intermediate lengths are available in increments of two times the roller centers only (see Components section).
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Components

C20002/C20003 Intermediate Drive Section (1.90" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers	Speed	HP	Voltage	Options
1	C20002	21"	60"	6"	50	3/4	230	HH



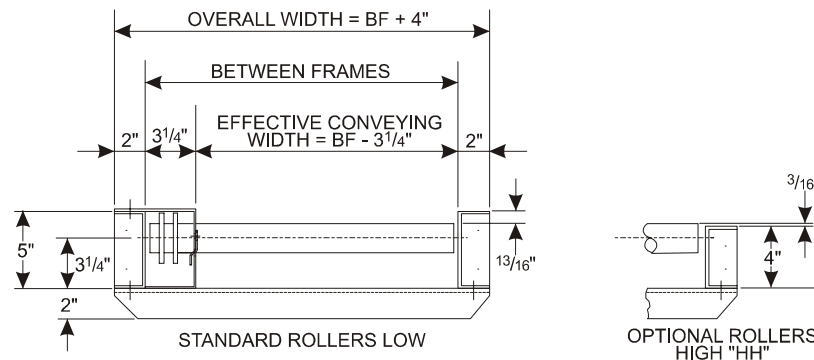
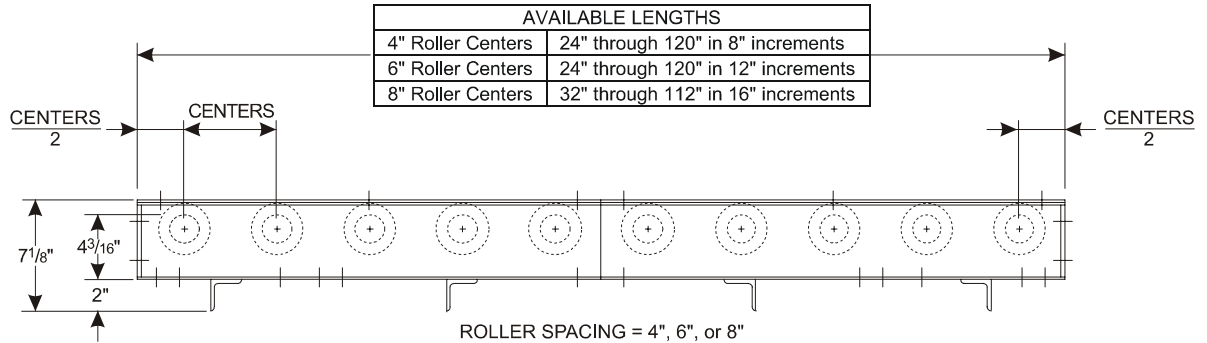
Motor/Reducer Selection Table				
Nominal Conveyor Speed (FPM)	Chain Pull (lbs.)	HP Required	Nominal Reducer Output (RPM)	No. of Teeth in Driver Sprocket
30	250	1/2	69	16
	380	3/4		
	545	1		
40	215	1/2	69	21
	320	3/4		
	455	1		
50	180	1/2	86	21
	265	3/4		
	355	1		
	580	1-1/2		
60	150	1/2	115	19
	230	3/4		
	305	1		
	495	1-1/2		

- CONVEYOR WIDTH Standard - 18" thru 39" Between Frames in 3" increments.
Effective Conveying Width = W - 3-1/4"
- FRAME Standard - 5" x 2" x .180" (7 ga.) formed steel channel on both sides.
- COUPLINGS Standard - Welded butt.
- ROLLER SPACING Standard - 4", 6" and 8".
- ROLLERS Standard - 1.90" dia. x .109" (12 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles. Two (2) 40A18 sprockets welded to each roller. Rollers are mounted 13/16" low.
- REGREASEABLE BEARINGS Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH (One Side) Option - 5" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN Standard - #40 roller chain.
- CHAIN COVER Standard - Fully enclosed scalloped chain guard, .120" (11 ga.)
- MOTOR/REDUCER Option - Motor/Reducer available in inverted position. Order as C20003.
- BRAKE Option - For motors with a brake, specify "B" under Options on How To Order.

C20000 Intermediate Tread Section (1.90" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers	Options
1	C20000	27"	120"	6"	HH



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- CONVEYOR WIDTH Standard - 18" thru 39" Between Frames in 3" increments.
Effective Conveying Width = $W - 3\frac{1}{4}$ ".
- FRAME Standard - 5" x 2" x .180" (7 ga.) formed steel channel on both sides.
- COUPLINGS Standard - Welded butt.
- ROLLER SPACING Standard - 4", 6" or 8".
- ROLLERS Standard - 1.90" dia. x .109" (12 ga.) steel rollers with B100-2 grease packed bearings and 7/16" hex spring loaded axles. Two (2) 40A18 sprockets welded to one end of each roller. rollers are mounted 13/16" low.
- REGREASEABLE BEARINGS Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH (One Side) Option - 5" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN Standard - #40 roller chain.
- CHAIN COVER Standard - Fully enclosed scalloped chain guard, .120" (11 ga.)

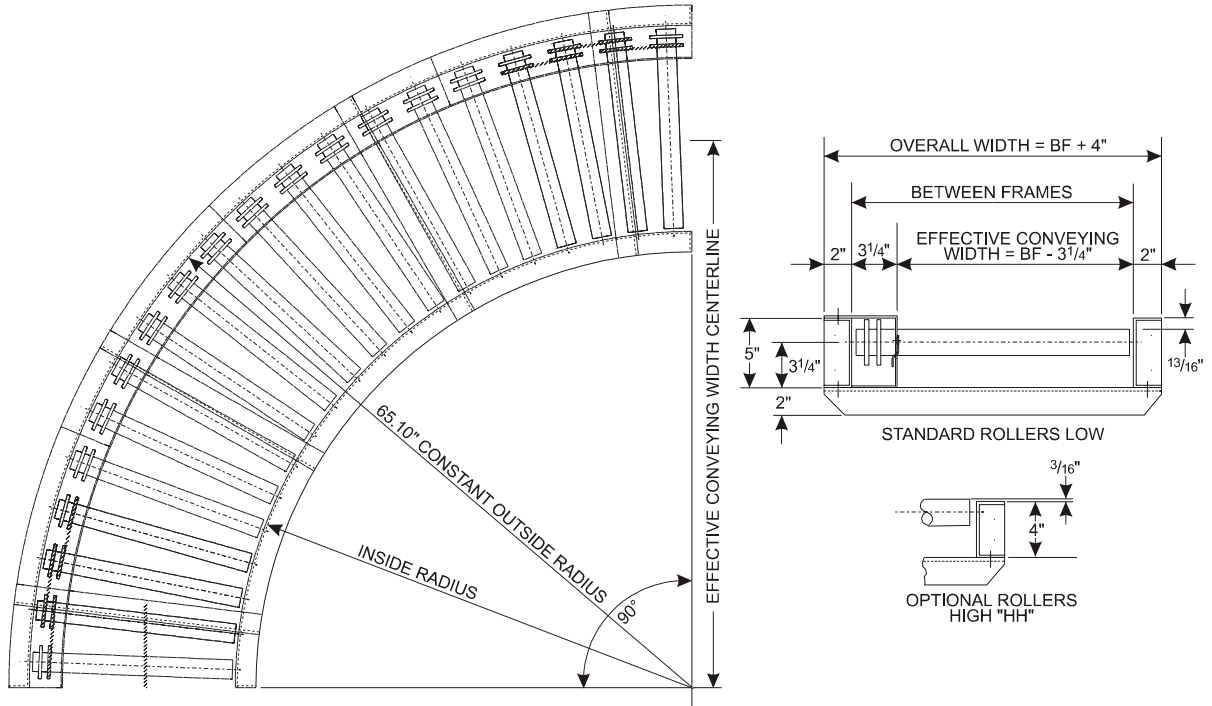
The tables below are based on the frame and roller capacities and deflection of frame, whichever is the lowest.

Rollers Low				Total Load Capacity (lbs./ft.)		
5" x 2" x .180" (7 ga.) formed steel channel on both sides						
Between Frames Dimensions	5'-0" Support Centers			10'-0" Support Centers		
	Roller Centers			Roller Centers		
	4"	6"	8"	4"	6"	8"
18"	618	412	309	375	379	309
21"	618	412	309	373	378	309
24"	618	412	309	371	376	309
27"	618	412	309	369	375	309
30"	614	409	307	368	374	307
33"	610	407	305	366	373	305
36"	576	384	288	364	371	288
39"	542	361	271	363	361	271

Roller High				Total Load Capacity (lbs./ft.)		
5" x 2" x .180" (7 ga.) formed steel channel on the chain side 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side						
Between Frames Dimensions	5'-0" Support Centers			10'-0" Support Centers		
	Roller Centers			Roller Centers		
	4"	6"	8"	4"	6"	8"
18"	618	412	309	318	323	309
21"	618	412	309	316	322	309
24"	618	412	309	314	320	309
27"	618	412	309	312	319	309
30"	614	409	307	310	317	307
33"	610	407	305	308	316	305
36"	576	384	288	306	315	288
39"	542	361	271	304	313	271

C20004 Straight Faced Roller Curve (1.90" dia. Rollers)
HOW TO ORDER

Quantity	Code No.	W	Options
1	C20004	27"	---



HB828FKI032a

Curve available in 90° only.

This curve is powered by adjacent straight conveyor.

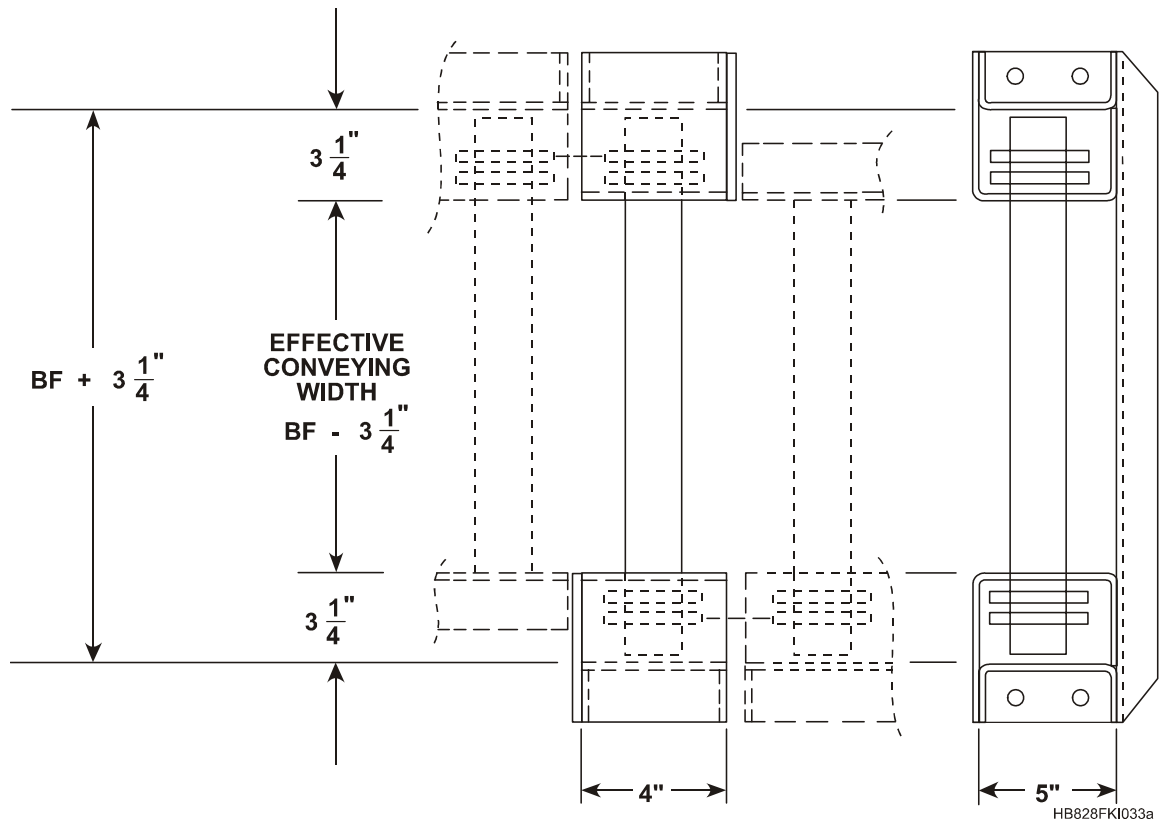
Dimension Table

Between Frames	Radii			Roller Centers at		
	Inside	Effective Conveying Width Centerline	Outside	Inside Rail	Effective Conveying With Centerline	Outside Rail
18"	47.10"	54.48"	65.10"	3.70"	4.28"	5.11"
21"	44.10"	52.98"	65.10"	3.46"	4.16"	5.11"
24"	41.10"	51.48"	65.10"	3.23"	4.04"	5.11"
27"	38.10"	49.98"	65.10"	2.99"	3.92"	5.11"
30"	35.10"	48.48"	65.10"	2.76"	3.81"	5.11"
33"	32.10"	46.98"	65.10"	2.52"	3.69"	5.11"
36"	29.10"	45.48"	65.10"	2.29"	3.57"	5.11"
39"	26.10"	43.98"	65.10"	2.05"	3.45"	5.11"

CONVEYOR WIDTH	Standard - 18" thru 39" Between Frames in 3" increments. Effective Conveying Width = W - 3-1/4".
FRAME	Standard - 5" x 2" x .180" (7 ga.) formed steel channel on both sides.
COULINGS	Standard - Welded butt.
ROLLER SPACING	Standard - Approximate 5-1/8" centers on the outside rail.
ROLLERS	Standard - Twenty (20) 1.90" dia. x .109" (12 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex spring loaded axles. Two (2) 41A18H sprockets welded to one end of each roller.
REGREASEABLE BEARINGS	Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
ROLLERS HIGH	Option - 5" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
CHAIN	Standard - #40 roller chain.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .120" (11 ga.).

C20001 Chain Crossover (1.90" dia. Roller)
HOW TO ORDER

Quantity	Code No.	W	Roller Centers	Options
1	C20001	21"	4"	---



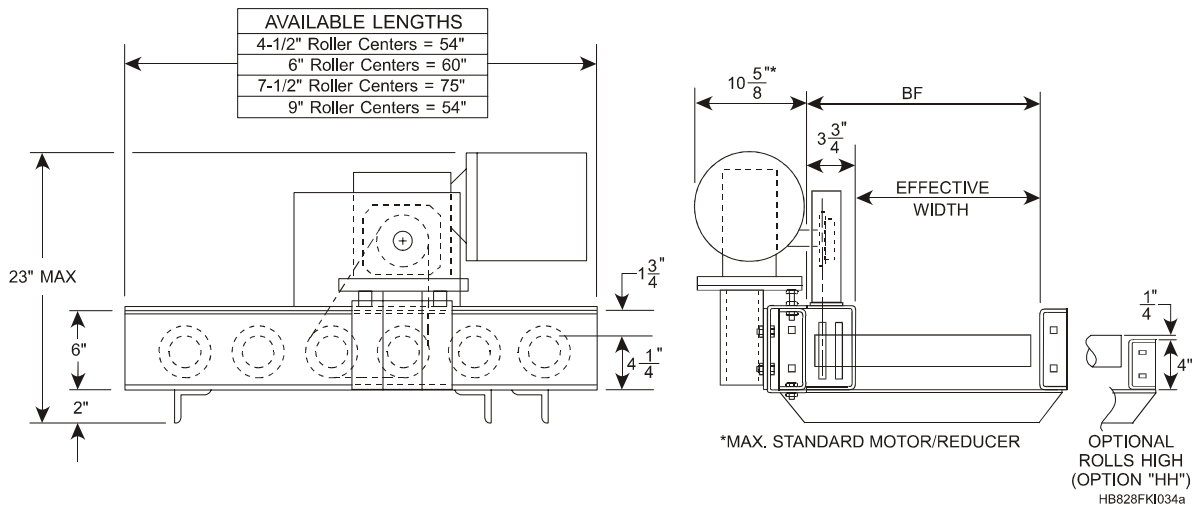
Standard Widths (Order By "Conveyor" W)								
Note: When ordering this Crossover, use the W dimension of the adjoining conveyor sections.	18"	21"	24"	27"	30"	33"	36"	39"
Effective Conveying Width	14-3/4"	17-3/4"	20-3/4"	23-3/4"	26-3/4"	29-3/4"	32-3/4"	35-3/4"

FRAME	Standard - 5" x 2" x .180" (7 ga.) formed steel channel on both sides.
COUPLINGS	Standard - Welded butt.
ROLLER	Standard - 1.90" dia. x .109" (12 ga.) steel rollers with B1020-2 grease packed bearings and 7/16" hex axle. Two (2) 40A18 sprockets welded to each end.
REGREASEABLE BEARINGS	Option - Regreaseable bearings are available. Specify "RG" under Options on How To Order.
CHAIN	Standard - #40 roller chain. One (1) loop included.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .120" (11 ga.).

C20014 Intermediate Drive Section (2.50" dia. Rollers)

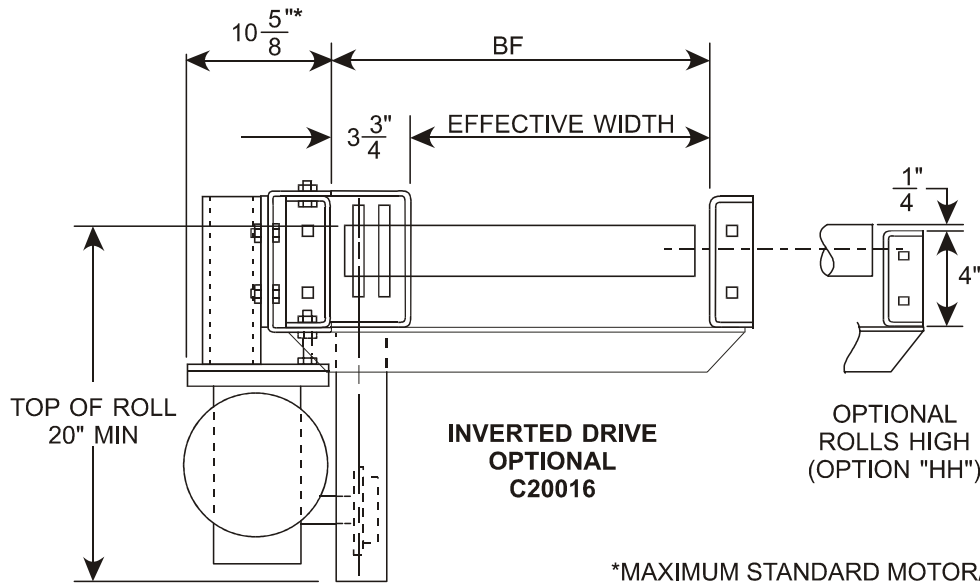
HOW TO ORDER

Quantity	Code No.	W	Section Length	Roller Centers	Speed	HP	Voltage	Options
1	C20014	27"	60"	6"	30	3/4	460	HH



- CONVEYOR WIDTH** Standard - 18" thru 60" Between Frames in 3" increments.
Effective Conveying Width = W - 3-3/4".
- FRAME** Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 6" @ 8.2# structural channel. Order as C20015 or C20017 inverted.
- COUPLINGS** Standard - Welded butt.
- ROLLER SPACING** Standard - 4-1/2", 6", 7-1/2" and 9".
- ROLLERS** Standard - 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to each roller. 15 tooth for 4-1/2" centers. 16 tooth for 6", 7-1/2" and 9" centers.
- REGREASEABLE BEARINGS** Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH (One Side)** Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN** Standard - #60 roller chain.
- CHAIN COVER** Standard - Fully enclosed scalloped chain guard, .180" (7 ga.)
- MOTOR/REDUCER** Option - Motor/Reducer available in inverted position. Order as C20016.
- BRAKE** Option - For motors with a brake, specify "B" under Options on How To Order.
- SUPPORT** Standard - Punched for C699 or C681 type supports.

C20014/C20016 Intermediate Drive Section (2.50" dia. Rollers)

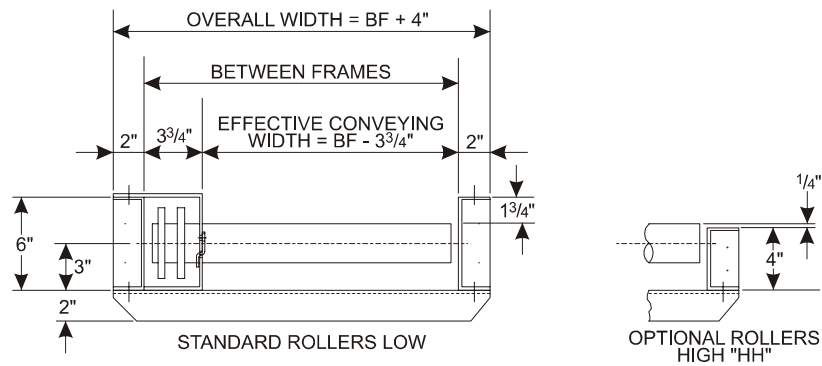
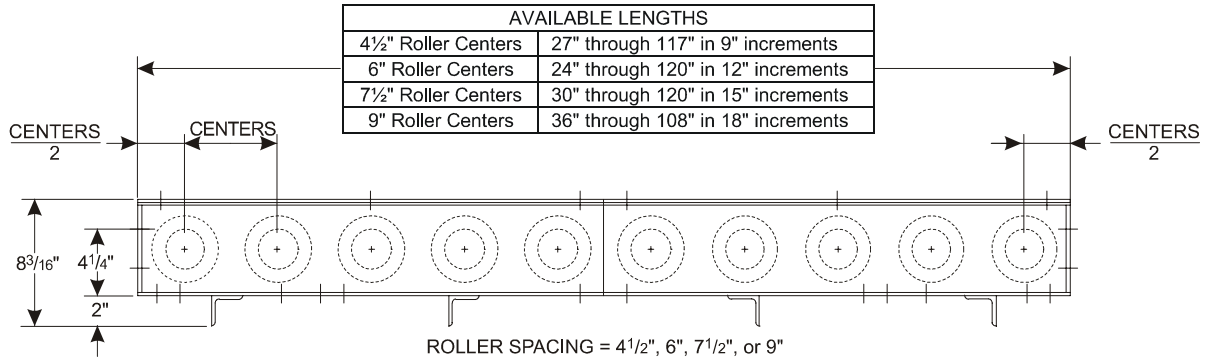


Motor/Reducer Selection Table				
Nominal conveyor Speed (FPM)	Chain Pull (lbs.)	HP Required	Nominal Reducer Output (RPM)	No. of Teeth in Driver Sprocket
30	230	1/2	43	17
	365	3/4		
	485	1		
	905	1-1/2		
	1200	2		
40	185	1/2	58	17
	295	3/4		
	390	1		
	735	1-1/2		
	980	2		
50	175	1/2	69	18
	265	3/4		
	380	1		
	570	1-1/2		
	850	2		
	1140	3		
60	150	1/2	86	17
	225	3/4		
	320	1		
	480	1-1/2		
	715	2		
	965	3		

C20010 Intermediate Tread Section (2.50" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers	Options
2	C20010	27"	120"	6"	---



HB828FKI036a

CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = W -3-3/4"
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Available with 6" @ 8.2# structural channel. Order as C20011.
COUPLINGS	Standard - Welded butt.
ROLLER SPACING	Standard - 4-1/2", 6", 7-1/2" and 9".
ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to each roller. 15 tooth for 4-1/2" centers. 16 tooth for 6", 7-1/2" and 9" centers.
REGREASEABLE BEARINGS	Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
ROLLERS HIGH (One Side)	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
CHAIN	Standard - #60 roller chain.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).
SUPPORT	Standard - Punched for C699 or C681 type supports.

The tables on the following page are based on the frame and roller capacities and deflection of frame, whichever is the lowest.

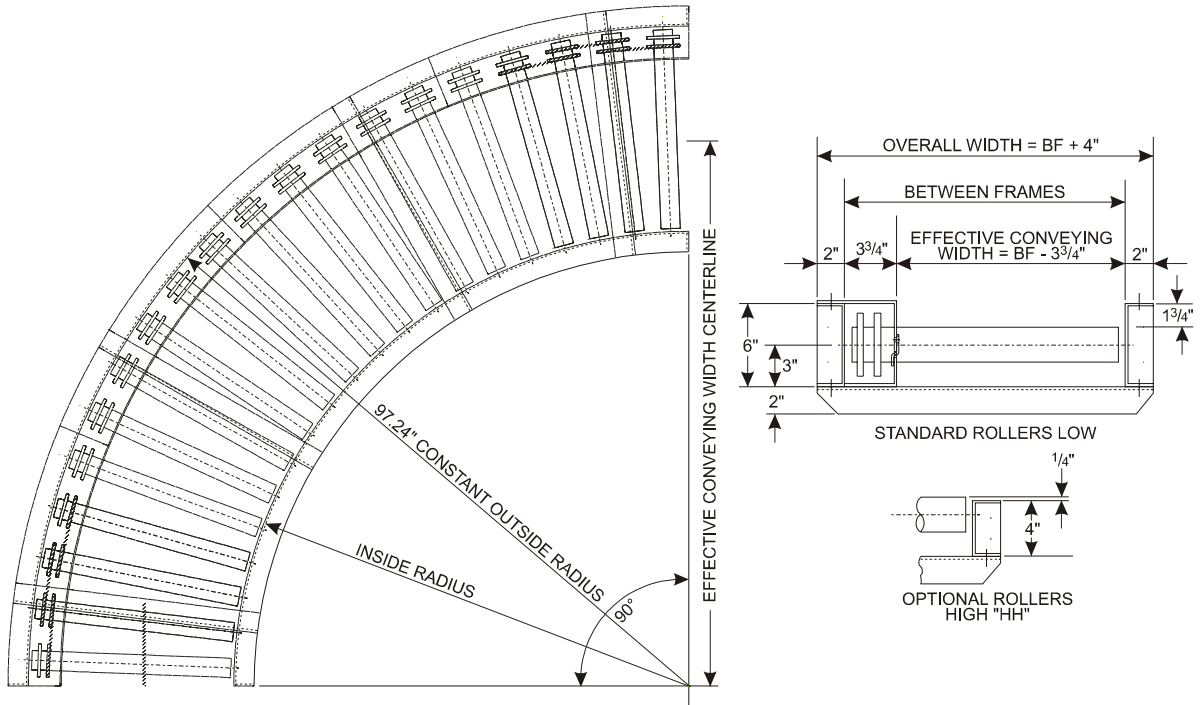
Formed Steel Channel													Total Load Capacity (lbs./ft.)			
Rollers Low													Rollers High			
6" x 2" x .180" (7 ga.) formed steel channel on both sides													6" x 2" x .180" (7 ga.) formed steel channel on both sides 4" x 2" x .180" (7 ga.) formed steel channel on the opp. side			
W Dim.	5'-0" Support Centers				10'-0" Support Centers				5'-0" Support Centers				10'-0" Support Centers			
	Roller Centers				Roller Centers				Roller Centers				Roller Centers			
	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"
18"	1079	809	647	540	476	483	487	490	1079	809	647	540	298	307	312	315
21"	1079	809	647	540	473	481	486	489	1079	809	647	540	295	304	310	313
24"	1079	809	647	540	471	479	484	487	1079	809	647	540	292	302	308	311
27"	1079	809	647	540	468	477	482	486	1079	809	647	540	289	299	305	310
30"	1079	809	647	540	465	475	480	484	1079	809	647	540	285	297	303	308
33"	1079	809	647	540	462	472	479	483	1079	809	647	540	282	294	301	306
36"	1079	809	647	540	460	470	477	481	1079	809	647	540	279	291	299	304
39"	1079	809	647	540	457	468	475	480	1079	809	647	540	275	289	297	302
42"	1068	801	641	534	454	466	473	478	1068	801	641	534	272	286	295	301
45"	1056	792	634	528	451	464	471	476	1056	792	634	528	269	284	293	299
48"	1055	791	633	528	448	462	470	475	1055	791	633	528	265	281	291	297
51"	1054	791	633	527	446	460	468	473	1054	791	633	527	262	279	288	295
54"	1045	784	627	523	443	457	466	472	1045	784	627	523	259	276	286	293
57"	1036	777	622	518	440	455	464	470	1036	777	622	518	256	273	284	291
60"	983	737	590	492	437	453	462	469	983	737	590	492	252	271	282	290

Structural Steel Channel													Total Load Capacity (lbs./ft.)			
Rollers Low													Rollers High			
6" @ 8.2" structural steel channel on both sides													6" @ 8.2" structural steel channel on chain side 5" @ 5.4" structural steel channel on the opp. side			
W Dim.	5'-0" Support Centers				10'-0" Support Centers				4'-0" Support Centers				10'-0" Support Centers			
	Roller Centers				Roller Centers				Roller Centers				Roller Centers			
	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"
18"	1079	809	647	540	933	809	647	540	1079	809	647	540	454	462	467	470
21"	1079	809	647	540	930	809	647	540	1079	809	647	540	451	460	465	469
24"	1079	809	647	540	927	809	647	540	1079	809	647	540	447	457	463	467
27"	1079	809	647	540	924	809	647	540	1079	809	647	540	444	454	461	465
30"	1079	809	647	540	922	809	647	540	1079	809	647	540	441	452	459	463
33"	1079	809	647	540	919	809	647	540	1079	809	647	540	437	449	457	461
36"	1079	809	647	540	916	809	647	540	1079	809	647	540	434	447	454	459
39"	1079	809	647	540	913	809	647	540	1079	809	647	540	431	444	452	458
42"	1068	801	641	534	910	801	641	534	1068	801	641	534	427	442	450	456
45"	1056	792	634	528	908	792	634	528	1056	792	634	528	424	439	448	454
48"	1055	791	633	528	905	791	633	528	1055	791	633	528	421	437	446	452
51"	1054	791	633	527	902	791	633	527	1054	791	633	527	418	434	444	450
54"	1045	784	627	523	899	784	627	523	1045	784	627	523	414	431	442	449
57"	1036	777	622	518	896	777	622	518	1036	777	622	518	411	429	440	447
60"	983	737	590	492	894	737	590	492	983	737	590	492	408	426	437	445

C20018 Straight Faced Roller Curve (2.50" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Options
1	C20018	33"	---



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Curve available in 90° only.

This curve is powered by an adjacent straight conveyor.

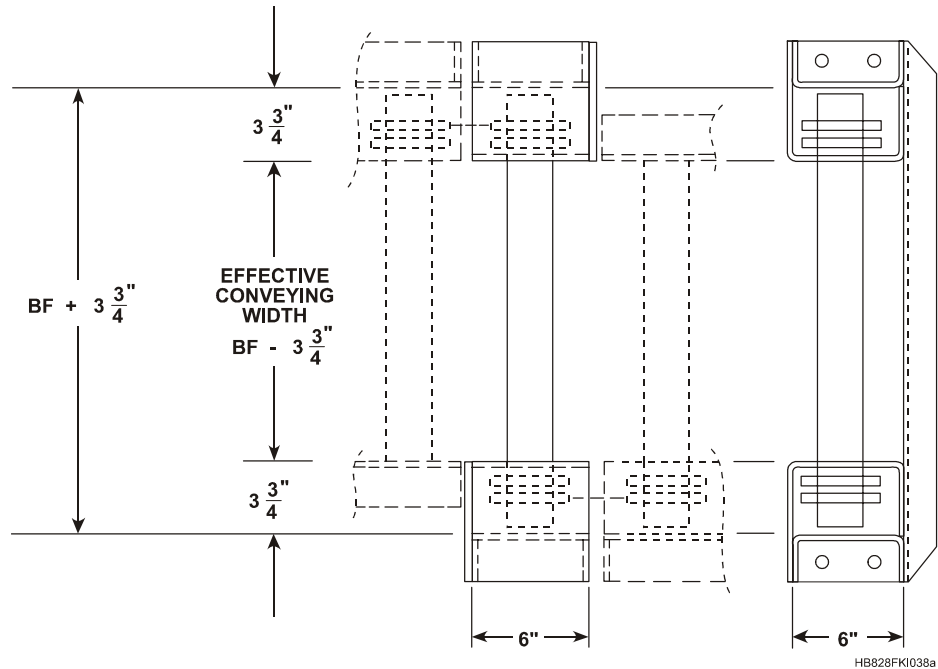
Dimension Table						
Between Frames	Radii			Roller Centers at		
	Inside	Effective Conveying Width Centerline	Outside	Inside Rail	Effective Conveying Width Centerline	Outside Rail
18"	79.24"	86.37"	97.24"	6.22"	6.78"	7.64"
21"	76.24"	84.87"	97.24"	5.99"	6.67"	7.64"
24"	73.24"	83.37"	97.24"	5.75"	6.55"	7.64"
27"	70.24"	81.87"	97.24"	5.51"	6.43"	7.64"
30"	67.24"	80.37"	97.24"	5.28"	6.31"	7.64"
33"	64.24"	78.87"	97.24"	5.05"	6.19"	7.64"
36"	61.24"	77.37"	97.24"	4.81"	6.07"	7.64"
39"	58.24"	75.87"	97.24"	4.57"	5.96"	7.64"
42"	55.24"	74.37"	97.24"	4.34"	5.84"	7.64"
45"	52.24"	72.87"	97.24"	4.10"	5.72"	7.64"
48"	49.24"	71.37"	97.24"	3.87"	5.60"	7.64"
51"	46.24"	69.87"	97.24"	3.63"	5.48"	7.64"
54"	43.24"	68.37"	97.24"	3.40"	5.37"	7.64"
57"	40.24"	66.87"	97.24"	3.16"	5.25"	7.64"
60"	37.24"	65.37"	97.24"	2.93"	5.13"	7.64"

CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = $W - 3\text{-}3/4$ ".
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Available with 6" @ 8.2# structural channel. Order as C20019.
COUPLINGS	Standard - Welded butt.
ROLLERS	Standard - Twenty (20) 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to each roller.
ROLLER SPACING	Standard - Approximately 7-5/8" centers on the outside rail.
REGREASEABLE BEARINGS	Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
ROLLERS HIGH	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
CHAIN	Standard - #60 roller chain.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

C20013 Chain Crossover (2.50" dia. Roller)

HOW TO ORDER

Quantity	Code No.	W	Roller Centers	Options
1	C20013	21"	6"	---



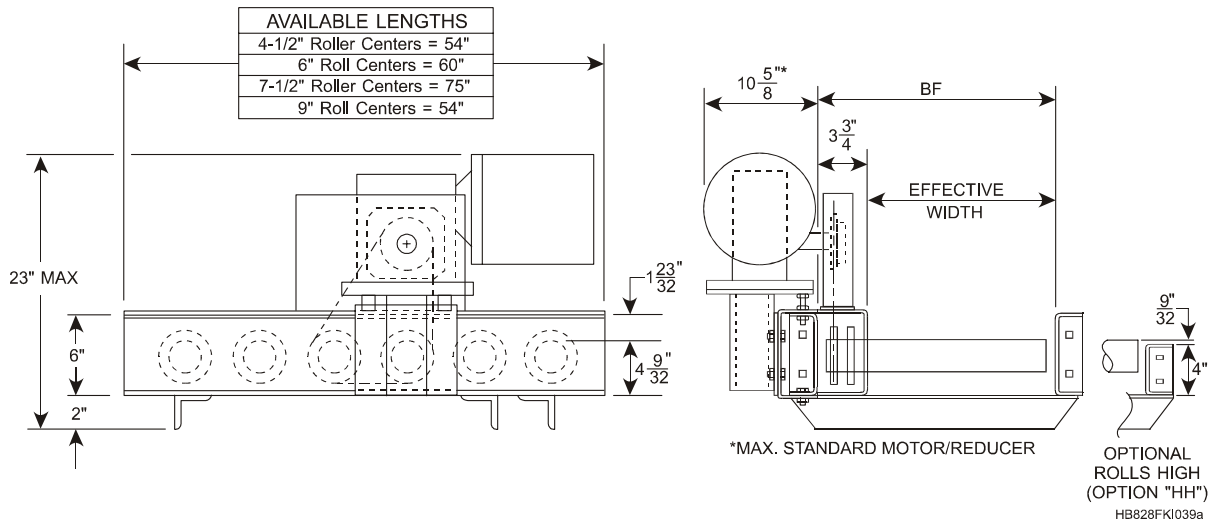
Standard Widths (Order By "Conveyor" W)															
Note: When ordering this Crossover, use the W dimension of the adjoining conveyor sections.	18"	21"	24"	27"	30"	33"	36"	39"	42"	45"	48"	51"	54"	57"	60"
Effective Conveying Width	14-1/4"	17-1/4"	20-1/4"	23-1/4"	26-1/4"	29-1/4"	32-1/4"	35-1/4"	38-1/4"	41-1/4"	44-1/4"	47-1/4"	50-1/4"	53-1/4"	56-1/4"

- FRAME** Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 6" @ 8.2# structural channel. Order as 20012.
- COUPLINGS** Standard - Welded butt.
- ROLLER** Standard - 2.50" dia. x .120" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axle. Two (2) 60A sprockets welded to each end.
- REGREASEABLE BEARINGS** Option - Regreaseable bearings are available. Specify "RG" under Options on How To Order.
- CHAIN** Standard - #60 roller chain. One (1) loop included.
- CHAIN COVER** Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

C20024 Intermediate Drive Section (2.56" dia. Rollers)

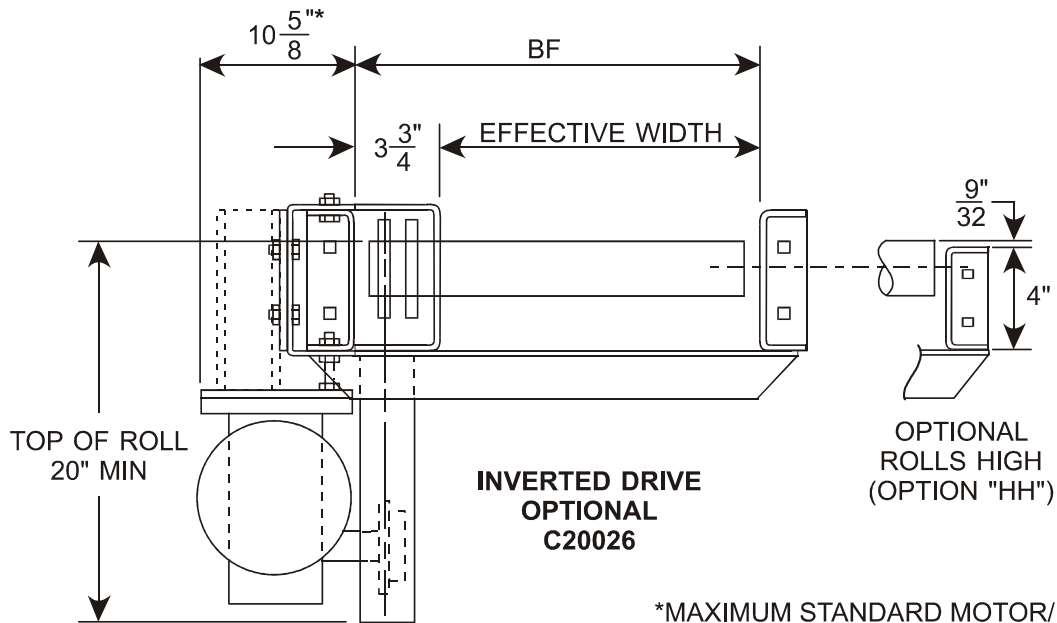
HOW TO ORDER

Quantity	Code No.	W	Section Length	Roller Centers	Speed	HP	Voltage	Options
1	C20024	27"	60"	6"	50	3/4	460	HH



CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = W - 3-3/4".
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Available with 6" @ 8.2# structural channel. Order as C20015 or C20027 inverted.
COUPLINGS	Standard - Welded butt.
ROLLER SPACING	Standard - 4-1/2", 6", 7-1/2" and 9".
ROLLERS	Standard - 2.56" dia. x .180" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to each roller. 15 tooth for 4-1/2" centers. 16 tooth for 6", 7-1/2" and 9" centers.
REGREASEABLE BEARINGS	Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
ROLLERS HIGH (One Side)	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
CHAIN	Standard - #60 roller chain.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).
MOTOR/REDUCER	Option - Motor/Reducer available in inverted position. Order as C20026
BRAKE	Option - For motors with a brake, specify "B" under Options on How To Order.
SUPPORT	Standard - Punched for C699 or C681 type supports.

C20024/C20026 Intermediate Drive Section (2.56" dia. Rollers)



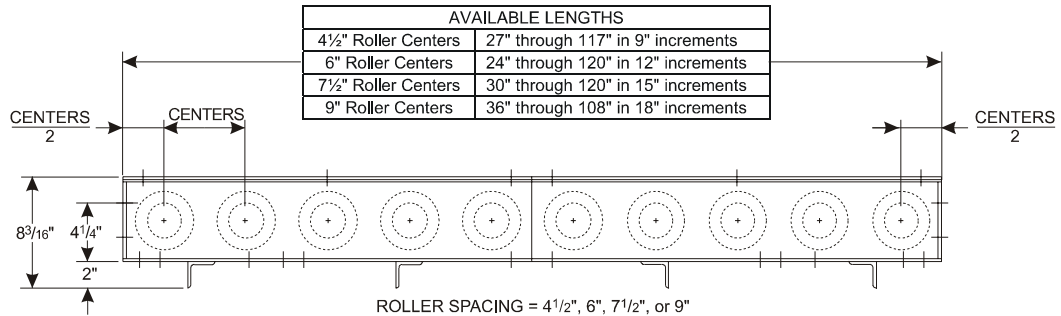
*MAXIMUM STANDARD MOTOR/REDUCER
HB828FKI040a

Motor/Reducer Selection Table				
Nominal conveyor Speed (FPM)	Chain Pull (lbs.)	HP Required	Nominal Reducer Output (RPM)	No. of Teeth in Driver Sprocket
30	230	1/2	43	16
	365	3/4		
	485	1		
	905	1-1/2		
	1200	2		
40	185	1/2	58	16
	295	3/4		
	390	1		
	735	1-1/2		
	980	2		
50	175	1/2	69	17
	265	3/4		
	380	1		
	570	1-1/2		
	850	2		
60	150	1/2	86	16
	225	3/4		
	320	1		
	480	1-1/2		
	715	2		
	965	3		

C20020 Intermediate Tread Section (2.56" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers	Options
2	C20020	27"	120"	6"	---



CONVEYOR WIDTH	Standard - 18" thru 60" Between Frames in 3" increments. Effective Conveying Width = $W - 3 - 3/4$ "
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Available with 6" @ 8.2# structural channel. Order as C20021.
COUPLINGS	Standard - Welded butt.
ROLLER SPACING	Standard - 4-1/2", 6", 7-1/2" and 9".
ROLLERS	Standard - 2.56" dia. x .180" (11 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to one end of each roller. 15 tooth for 4-1/2" centers. 16 tooth for 6", 7-1/2" and 9" centers.
REGREASEABLE BEARINGS	Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
ROLLERS HIGH (One Side)	Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
CHAIN	Standard - #60 roller chain.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard, .180" (7 ga.)
SUPPORT	Standard - Punched for C699 or C681 type supports.

The tables on the following page are based on the frame and roller capacities and deflection of frame, whichever is the lowest.

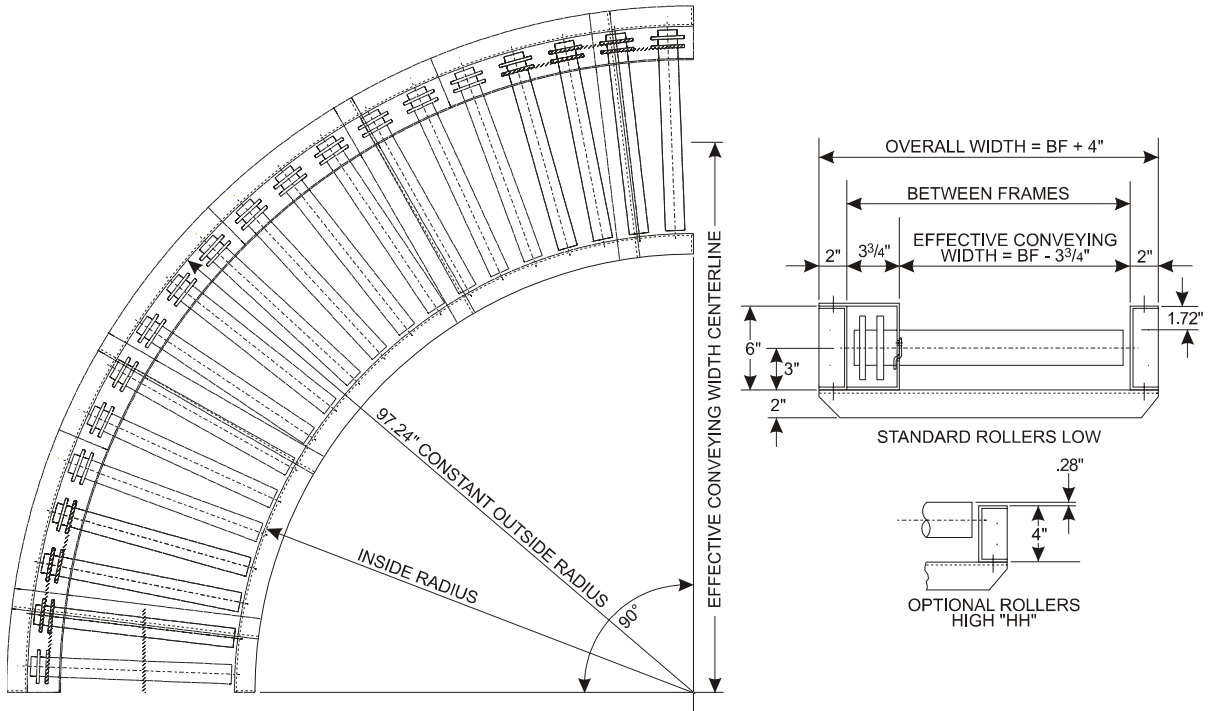
Formed Steel Channel										Total Load Capacity (lbs./ft.)							
Rollers Low										Rollers High							
6" x 2" x .180" (7 ga.) formed steel channel on both sides										6" x 2" x .180" (7 ga.) formed steel channel on both sides 4" x 2" x .180" (7 ga.) formed steel channel on the opp. side							
W Dim.	5'-0" Support Centers				10'-0" Support Centers				5'-0" Support Centers				10'-0" Support Centers				
	Roller Centers				Roller Centers				Roller Centers				Roller Centers				
	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	
18"	1079	809	647	540	471	479	484	488	1079	809	647	540	292	302	308	312	
21"	1079	809	647	540	467	476	482	486	1079	809	647	540	288	298	305	309	
24"	1079	809	647	540	463	473	479	484	1079	809	647	540	283	295	302	307	
27"	1079	809	647	540	460	471	477	481	1079	809	647	540	279	292	299	305	
30"	1079	809	647	540	456	468	475	479	1079	809	647	540	274	288	297	302	
33"	1079	809	647	540	452	465	472	477	1079	809	647	540	270	285	294	300	
36"	1079	809	647	540	448	462	470	475	1079	809	647	540	265	281	291	297	
39"	1079	809	647	540	445	459	468	473	1079	809	647	540	261	278	288	295	
42"	1063	797	638	532	441	456	465	471	1063	797	638	532	256	275	285	293	
45"	1047	785	628	524	437	453	463	469	1047	785	628	524	252	271	283	290	
48"	1045	784	627	523	433	450	461	467	1045	784	627	523	248	268	280	288	
51"	1044	783	626	522	430	447	458	465	1044	783	626	522	243	264	277	286	
54"	1034	775	620	517	426	445	456	463	1034	775	620	517	239	261	274	283	
57"	1024	768	614	512	422	442	453	461	1024	768	614	512	234	257	271	281	
60"	970	727	582	485	418	439	451	459	970	727	582	485	230	254	269	278	

Structural Steel Channel										Total Load Capacity (lbs./ft.)							
Rollers Low										Rollers High							
6" @ 8.2" structural steel channel on both sides										6" @ 8.2" structural steel channel on chain side 4" @ 5.4" structural steel channel on the opp. side							
W Dim.	5'-0" Support Centers				10'-0" Support Centers				5'-0" Support Centers				10'-0" Support Centers				
	Roller Centers				Roller Centers				Roller Centers				Roller Centers				
	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	4-1/2"	6"	7-1/2"	9"	
18"	1079	809	647	540	927	809	647	540	1079	809	647	540	447	457	463	467	
21"	1079	809	647	540	923	809	647	540	1079	809	647	540	443	454	460	465	
24"	1079	809	647	540	920	809	647	540	1079	809	647	540	438	450	458	462	
27"	1079	809	647	540	916	809	647	540	1079	809	647	540	434	447	455	460	
30"	1079	809	647	540	912	809	647	540	1079	809	647	540	430	444	452	458	
33"	1079	809	647	540	908	809	647	540	1079	809	647	540	425	440	449	455	
36"	1079	809	647	540	905	809	647	540	1079	809	647	540	421	437	446	453	
39"	1079	809	647	540	901	809	647	540	1079	809	647	540	416	433	444	450	
42"	1063	797	638	532	897	797	638	532	1063	797	638	532	412	430	441	448	
45"	1047	785	628	524	893	785	628	524	1047	785	628	524	407	426	438	446	
48"	1045	784	627	523	890	784	627	523	1045	784	627	523	403	423	435	443	
51"	1044	783	626	522	886	783	626	522	1044	783	628	522	398	420	432	441	
54"	1034	775	620	517	882	775	620	517	1034	626	620	517	394	416	430	438	
57"	1024	768	614	512	878	768	614	512	1024	768	614	512	390	413	427	436	
60"	970	727	582	485	875	727	582	485	970	727	582	485	385	409	424	434	

C20028 Straight Faced Roller Curve (2.56" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Options
1	C20028	33"	---



HB828FKI042a

Curve available in 90° only.

This curve is powered by an adjacent straight conveyor.

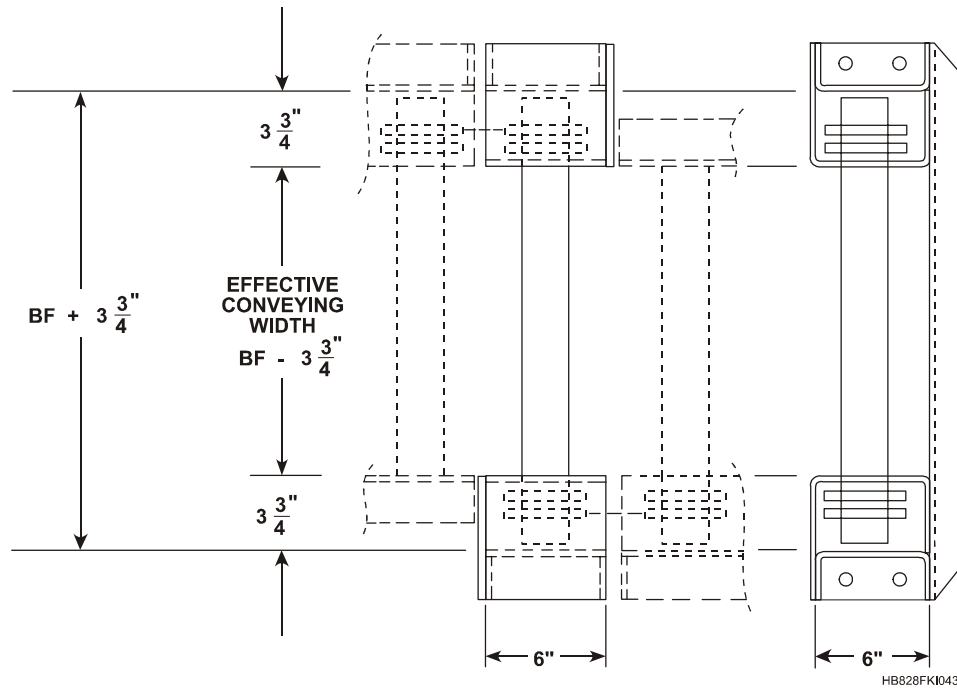
Dimension Table						
Between Frames	Radii			Roller Centers at		
	Inside	Effective Conveying Width Centerline	Outside	Inside Rail	Effective Conveying Width Centerline	Outside Rail
18"	79.24"	86.37"	97.24"	6.22"	6.78"	7.64"
21"	76.24"	84.87"	97.24"	5.99"	6.67"	7.64"
24"	73.24"	83.37"	97.24"	5.75"	6.55"	7.64"
27"	70.24"	81.87"	97.24"	5.51"	6.43"	7.64"
30"	67.24"	80.37"	97.24"	5.28"	6.31"	7.64"
33"	64.24"	78.87"	97.24"	5.05"	6.19"	7.64"
36"	61.24"	77.37"	97.24"	4.81"	6.07"	7.64"
39"	58.24"	75.87"	97.24"	4.57"	5.96"	7.64"
42"	55.24"	74.37"	97.24"	4.34"	5.84"	7.64"
45"	52.24"	72.87"	97.24"	4.10"	5.72"	7.64"
48"	49.24"	71.37"	97.24"	3.87"	5.60"	7.64"
51"	46.24"	69.87"	97.24"	3.63"	5.48"	7.64"
54"	43.24"	68.37"	97.24"	3.40"	5.37"	7.64"
57"	40.24"	66.87"	97.24"	3.16"	5.25"	7.64"
60"	37.24"	65.37"	97.24"	2.93"	5.13"	7.64"

- CONVEYOR WIDTH Standard - 18" thru 60" Between Frames in 3" increments.
Effective Conveying Width = $W - 3\text{-}3/4"$.
- FRAME Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 6" @ 8.2# structural channel. Order as C20029.
- COUPLINGS Standard - Welded butt.
- ROLLERS Standard - Twenty (20) 2.56" dia. x .180" (7 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axles. Two (2) 60A sprockets welded to one end of each roller.
- ROLLER SPACING Standard - Approximately 7-5/8" centers on the outside rail.
- REGREASEABLE BEARINGS Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH Option - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN Standard - #60 roller chain.
- CHAIN COVER Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

C20023 Chain Crossover (2.56" dia. Roller)

HOW TO ORDER

Quantity	Code No.	W	Roller Centers	Options
1	C20023	21"	6"	---



Standard Widths (Order By "Conveyor" W)

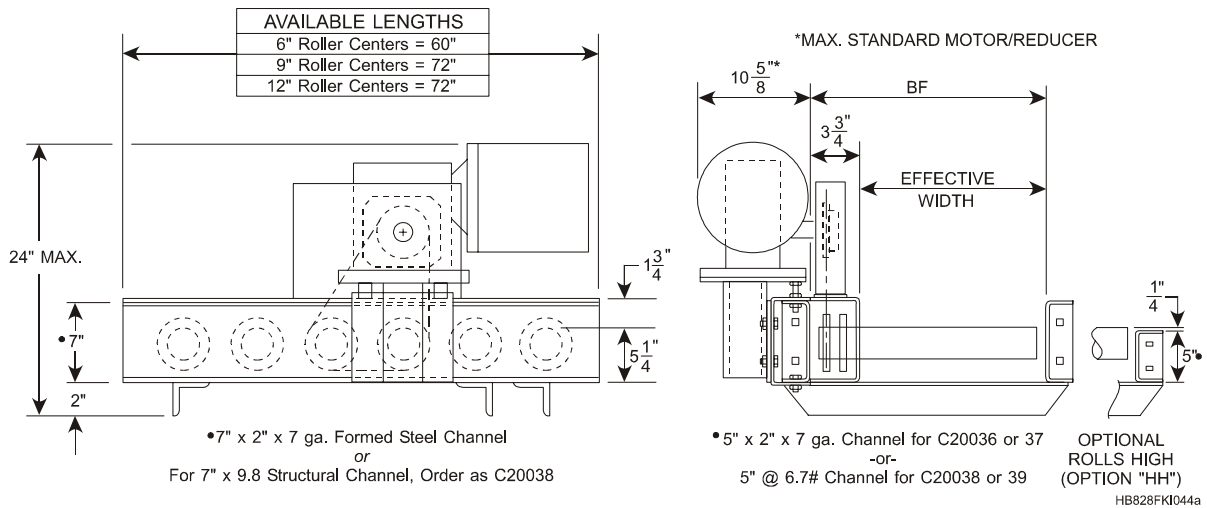
	18"	21"	24"	27"	30"	33"	36"	39"	42"	45"	48"	51"	54"	57"	60"
Note: When ordering this Crossover, use the W dimension of the adjoining conveyor sections.															
Effective Conveying Width	14-1/4"	17-1/4"	20-1/4"	23-1/4"	26-1/4"	29-1/4"	32-1/4"	35-1/4"	38-1/4"	41-1/4"	44-1/4"	47-1/4"	50-1/4"	53-1/4"	56-1/4"

- FRAME** Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides. Option - Available with 6" @ 8.2# structural channel. Order as 20022.
- COUPLINGS** Standard - Welded butt.
- ROLLER** Standard - 2.56" dia. x .180" (7 ga.) steel rollers with B1064-2 grease packed bearings and 11/16" hex axle. Two (2) 60A sprockets welded to each end.
- REGREASEABLE BEARINGS** Option - Regreaseable bearings are available. Specify "RG" under Options on How To Order.
- CHAIN** Standard - #60 roller chain. One (1) loop included.
- CHAIN COVER** Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

C20036 Intermediate Drive Section (3.50" dia. Rollers)

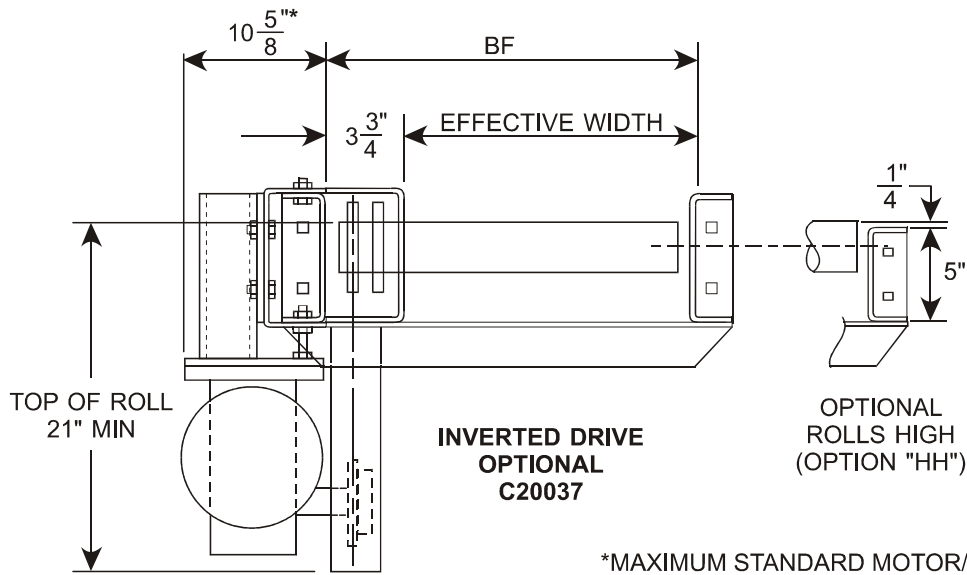
HOW TO ORDER

Quantity	Code No.	W	Section Length	Roller Centers	Speed	HP	Voltage	Options
1	C20036	36"	72"	12"	50	2	230	B



- CONVEYOR WIDTH** 18" thru 72" Between Frames in 3" increments.
Effective Conveying Width = W - 3-3/4".
- FRAME** Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 7" @ 9.8# structural channel. Order as C20038 or C20039 inverted.
- COUPLINGS** Standard - Welded butt.
- ROLLER SPACING** Standard - 6", 9" and 12".
- ROLLERS** Standard - 3.50" dia. x .300" wall steel with B1084-2 grease packed bearings and 1-1/16" hex axle. Two 92) 60A20 sprockets welded to each roller.
- REGREASEABLE BEARINGS** Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How to Order
- ROLLERS HIGH (One Side)** Option - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 5" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN** Standard - #60 roller chain.
- CHAIN COVER** Standard - Fully enclosed scalloped chain guard, .180" (7 ga.)
- MOTOR/REDUCER** Option - Motor/Reducer available in inverted position. Order as C20037 (formed) or C20039 (structural).
- BRAKE** Option - For motors with a brake, specify "B" under Options on How To Order.
- SUPPORT** Standard - Punched for C1570, C699 or C681 type supports.

C20036/C20037 Intermediate Drive Section (3.50" dia. Rollers)



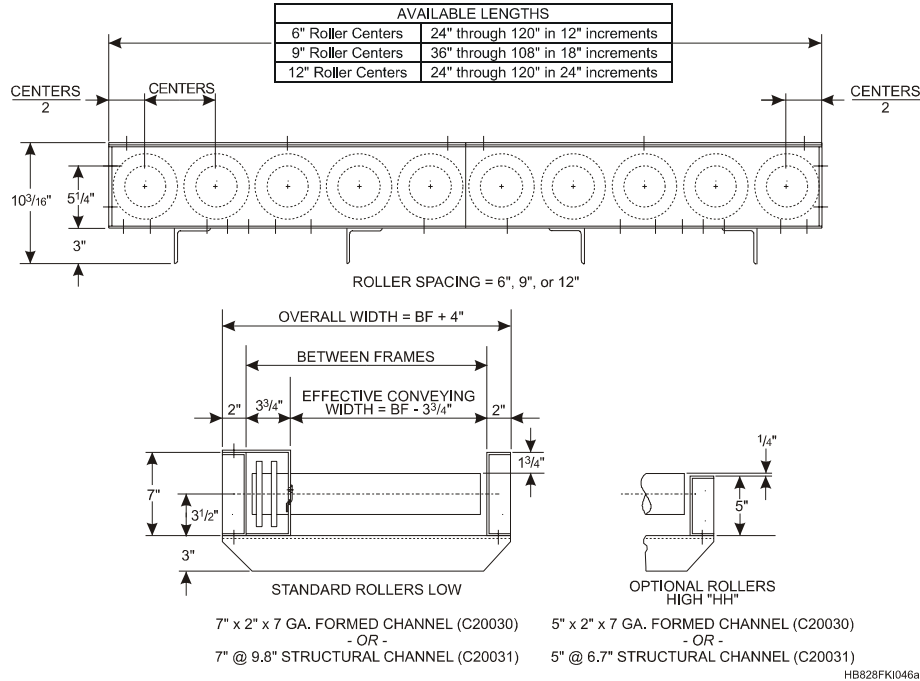
*MAXIMUM STANDARD MOTOR/REDUCER
HB828FKI045a

Motor/Reducer Selection Table				
Nominal Conveyor Speed (FPM)	Chain Pull (lbs.)	HP Required	Nominal Reducer Output (RPM)	No. of Teeth in Driver Sprocket
30	230	1/2	43	15
	365	3/4		
	485	1		
	905	1-1/2		
40	185	1/2	43	20
	295	3/4		
	390	1		
	735	1-1/2		
	980	2		
50	175	1/2	58	19
	265	3/4		
	380	1		
	570	1-1/2		
	850	2		
60	150	1/2	69	19
	225	3/4		
	320	1		
	480	1-1/2		
	715	2		

C20030 Intermediate Tread Section (3.50" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Length	Roller Centers	Options
2	C20030	60"	108"	9"	---



- CONVEYOR WIDTH Standard - 18" thru 72" Between Frames in 3" increments.
Effective Conveying Width = $W - 3\text{-}3/4"$.
- FRAME Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 7" @ 9.8# structural channel. Order as C2031.
- COUPLINGS Standard - Welded butt.
- ROLLER SPACING Standard - 6", 9" and 12".
- ROLLERS Standard - 3.50" dia. x .300" wall steel with B1084-2 grease packed bearings and 1-1/16" hex axle. Two (2) 60A20 sprockets welded to one end of each roller.
- REGREASEABLE BEARINGS Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH (One Side) Option - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 5" x 2" x .180" (7 ga.) formed steel channel on the opposite side. Specify "HH" under Options on How To Order.
- CHAIN Standard - #60 roller chain.
- CHAIN COVER Standard - Fully enclosed scalloped chain guard, .180" (7 ga.)
- SUPPORT Standard - Punched for C1570, C699 or C681 type supports.

The tables on the following page are based on the frame and roller capacities and deflection of frame, whichever is the lowest.

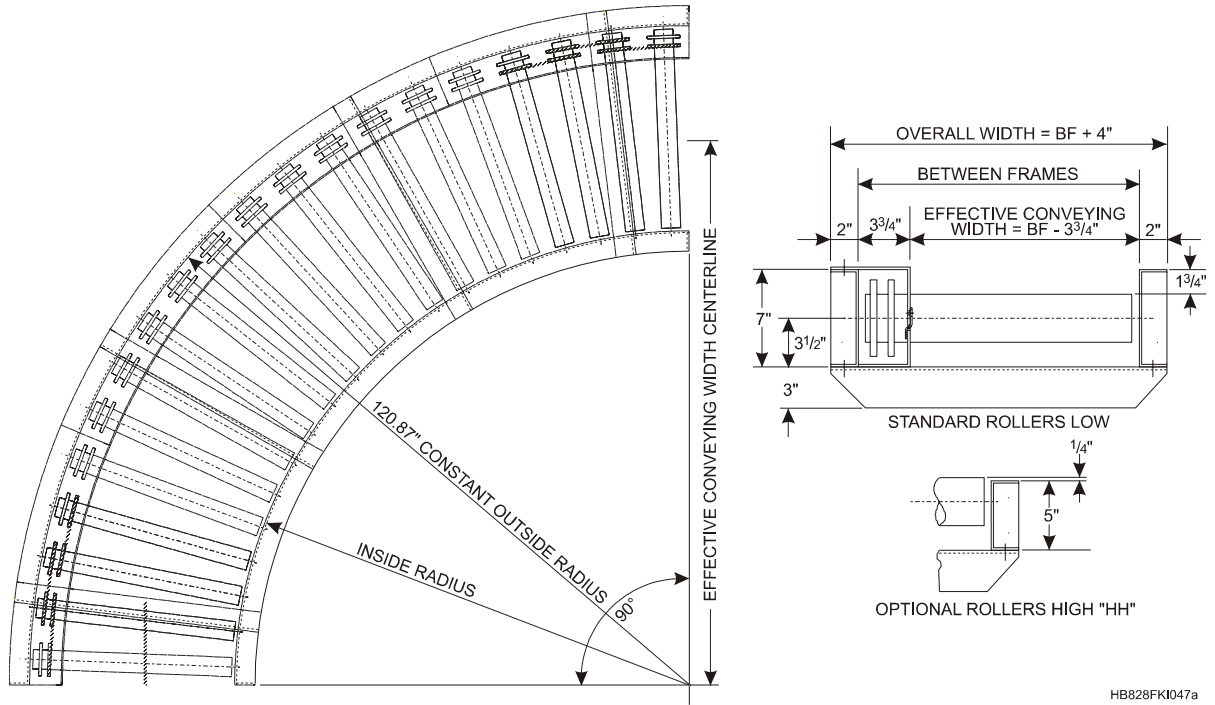
Formed Steel Channel							Total Load Capacity (lbs./ft.)					
Rollers Low							Rollers High					
7" x 2" x .180" (7 ga.) formed steel channel on both sides							7" x 2" x .180" (7 ga.) formed steel channel on both sides 5" x 2" x .180" (7 ga.) formed steel channel on the opp. side					
W Dim.	5'-0" Support Centers			10'-0" Support Centers			5'-0" Support Centers			10'-0" Support Centers		
	Roller Centers			Roller Centers			Roller Centers			Roller Centers		
	6"	9"	12"	6"	9"	12"	6"	9"	12"	6"	9"	12"
18"	2546	2218	1663	548	599	607	1559	1575	1583	400	418	427
21"	2540	2218	1663	577	595	604	1553	1571	1579	393	413	424
24"	2533	2218	1663	571	591	600	1547	1566	1576	385	408	420
27"	2527	2218	1663	565	586	597	1541	1562	1573	378	403	416
30"	2521	2218	1663	559	582	594	1535	1558	1569	371	398	412
33"	2515	2218	1663	553	578	590	1529	1554	1566	363	393	408
36"	2509	2218	1663	547	574	587	1522	1549	1563	356	388	404
39"	2503	2218	1663	540	569	584	1516	1545	1560	349	383	400
42"	2496	2218	1663	534	565	580	1510	1541	1556	341	378	396
45"	2490	2218	1663	528	561	577	1504	1537	1553	334	373	392
48"	2484	2194	1645	522	557	574	1498	1532	1550	327	368	388
51"	2478	2170	1627	516	552	571	1492	1528	1546	320	363	384
54"	2472	2167	1625	510	548	567	1485	1524	1543	312	358	381
57"	2466	2166	1624	503	544	564	1479	1520	1540	305	353	377
60"	2459	2158	1618	497	540	561	1473	1515	1536	298	348	373
63"	2453	2150	1612	491	535	557	1467	1511	1533	290	343	369
66"	2447	2049	1536	485	531	554	1461	1507	1530	283	338	365
69"	2441	1948	1461	479	527	551	1461	1507	1530	283	338	365
72"	2435	1863	1397	473	523	547	1455	1503	1461	276	333	361

Structural Steel Channel							Total Load Capacity (lbs./ft.)					
Rollers Low							Rollers High					
7" @ 9.8" structural steel channel on both sides							7" @ 9.8" structural steel channel on chain side 5" @ 6.7" structural steel channel on opposite side					
W Dim.	5'-0" Support Centers			10'-0" Support Centers			5'-0" Support Centers			10'-0" Support Centers		
	Roller Centers			Roller Centers			Roller Centers			Roller Centers		
	6"	9"	12"	6"	9"	12"	6"	9"	12"	6"	9"	12"
18"	3327	2218	1663	1275	1291	1299	2629	2218	1663	713	731	741
21"	3327	2218	1663	1269	1287	1295	2623	2218	1663	706	726	737
24"	3327	2218	1663	1263	1282	1292	2617	2218	1663	698	721	733
27"	3327	2218	1663	1257	1278	1289	2611	2218	1663	691	716	729
30"	3327	2218	1663	1251	1274	1285	2605	2218	1663	684	711	725
33"	3327	2218	1663	1244	1270	1282	2598	2218	1663	676	706	721
36"	3327	2218	1663	1238	1265	1279	2592	2218	1663	669	701	717
39"	3327	2218	1663	1232	1261	1275	2586	2218	1663	662	696	713
42"	3327	2218	1663	1226	1257	1272	2580	2218	1663	655	691	709
45"	3327	2218	1663	1220	1253	1269	2574	2218	1663	647	686	705
48"	3291	2194	1645	1214	1248	1266	2568	2194	1645	640	681	702
51"	3255	2170	1627	1207	1244	1262	2561	2170	1627	633	676	698
54"	3251	2167	1625	1201	1240	1259	2555	2167	1625	625	671	694
57"	3248	2166	1624	1195	1236	1256	2549	2166	1624	618	666	690
60"	3236	2158	1618	1189	1231	1252	2543	2158	1618	611	661	686
63"	3224	2150	1612	1183	1227	1249	2537	2150	1612	604	656	682
66"	3073	2049	1536	1177	1223	1246	2531	2049	1536	596	651	678
69"	2922	1948	1461	1170	1218	1243	2531	2049	1536	596	651	678
72"	2794	1863	1397	1164	1214	1239	2524	1948	1461	589	646	674

C20052 Straight Faced Roller Curve (3.50" dia. Rollers)

HOW TO ORDER

Quantity	Code No.	W	Options
1	C20052	39"	---



HB828FKI047a

Curve available in 90° only.

This curve is powered by an adjacent straight conveyor.

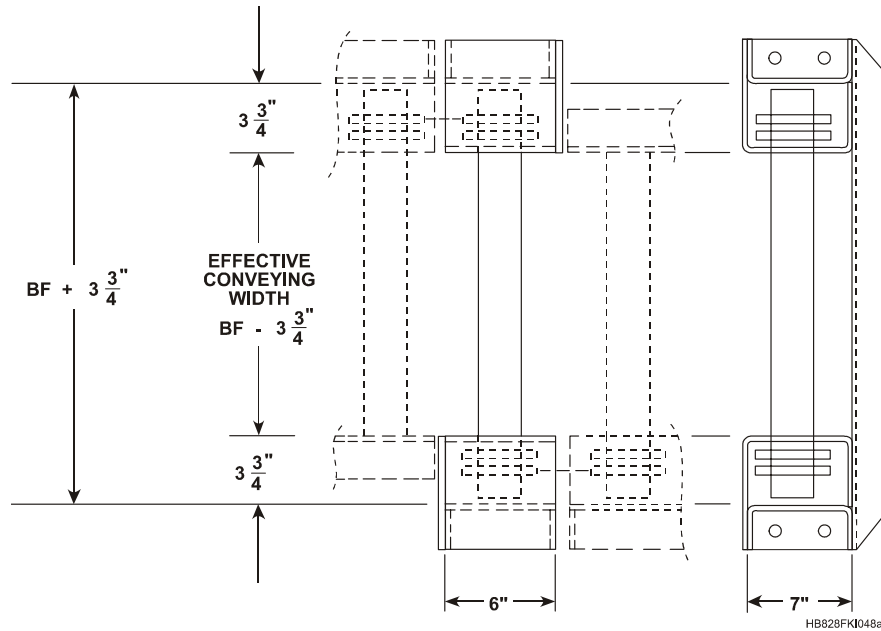
Dimension Table						
Between Frames	Radii			Roller Centers at		
	Inside	Effective Conveying Width Centerline	Outside	Inside Rail	Effective Conveying Width Centerline	Outside Rail
18"	102.88"	110.01"	120.88"	8.08"	8.65"	9.51"
21"	99.88"	108.51"	120.88"	7.84"	8.53"	9.51"
24"	96.88"	107.01"	120.88"	7.61"	8.41"	9.51"
27"	93.88"	105.51"	120.88"	7.37"	8.29"	9.51"
30"	90.88"	104.01"	120.88"	7.14"	8.17"	9.51"
33"	87.88"	102.51"	120.88"	6.92"	8.05"	9.51"
36"	84.88"	101.01"	120.88"	6.68"	7.93"	9.51"
39"	81.88"	99.51"	120.88"	6.44"	7.81"	9.51"
42"	78.88"	98.01"	120.88"	6.21"	7.69"	9.51"
45"	75.88"	96.51"	120.88"	5.97"	7.58"	9.51"
48"	72.88"	95.01"	120.88"	5.74"	7.46"	9.51"
51"	69.88"	93.51"	120.88"	5.50"	7.34"	9.51"
54"	66.88"	92.01"	120.88"	5.26"	7.22"	9.51"
57"	63.88"	90.51"	120.88"	5.03"	7.11"	9.51"
60"	60.88"	89.01"	120.88"	4.79"	6.99"	9.51"
63"	57.88"	87.51"	120.88"	4.56"	6.87"	9.51"
66"	54.88"	86.01"	120.88"	4.32"	6.75"	9.51"
69"	51.88"	84.51"	120.88"	4.08"	6.63"	9.51"
72"	48.88"	83.01"	120.88"	3.85"	6.52"	9.51"

- CONVEYOR WIDTH Standard - 18" thru 72" Between Frames in 3" increments.
Effective Conveying Width = W - 3-3/4".
- FRAME Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 7" @ 9.8# structural channel. Order as C20053.
- COUPLINGS Standard - Welded butt.
- ROLLERS Standard - Twenty (20) 3.50" dia. x .300" wall steel with B1084-2 grease packed bearings and 1-1/16" hex axle. Two (2) 60A20 sprockets welded to one end of each roller.
- ROLLER SPACING Standard - Approximately 9-1/2" centers on the outside rail.
- REGREASEABLE BEARINGS Option - Regreaseable bearings in the conveyor rollers are available. Specify "RG" under Options on How To Order.
- ROLLERS HIGH Option - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 5" x 2" x .180" (7 ga.) formed steel channel on opposite side. Specify "HH" under Options on How To Order.
- CHAIN Standard - #60 roller chain.
- CHAIN COVER Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

C20033 Chain Crossover (3.50" dia. Roller)

HOW TO ORDER

Quantity	Code No.	W	Roller Centers	Options
1	C20033	21"	6"	---



Standard Widths (Order By "Conveyor" W)																			
Note: When ordering this Crossover, use the W dimension of the adjoining conveyor sections.																			
	18"	21"	24"	27"	30"	33"	36"	39"	42"	45"	48"	51"	54"	57"	60"	63"	66"	69"	72"
Effective Conveying Width	14-1/4"	17-1/4"	20-1/4"	23-1/4"	26-1/4"	29-1/4"	32-1/4"	35-1/4"	38-1/4"	41-1/4"	44-1/4"	47-1/4"	50-1/4"	53-1/4"	56-1/4"	59-1/4"	62-1/4"	65-1/4"	68-1/4"

- FRAME** Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
Option - Available with 7" @ 9.8# structural channel. Order as 20034-W-Length.
- COUPLINGS** Standard - Welded butt.
- ROLLER** Standard - 3.50" dia. x .300" wall steel with B1084-2 grease packed bearings and 1-1/16" hex axle. Two (2) 60A20T sprockets welded to each end.
- REGREASEABLE BEARINGS** Option - Regreaseable bearings are available. Specify "RG" under Option on How To Order
- CHAIN** Standard - 3#0 roller chain. One (1) loop included.
- CHAIN COVER** Standard - Fully enclosed scalloped chain guard, .180" (7 ga.).

General Specifications

Roller to Roller Chain Driven Live Roller Conveyor - Available as a Standard Product

Roller Assembly				Frame	
Tube Size	Bearing	Sprocket	Axle	Chain Side	Opposite Side
1.90" dia. x .109" wall	B1020-2	#40A18	7/16" Hex	5" x 2" x .180" (7 ga.) Formed Channel	5" x 2" x .180" (7 ga.) Formed Channel
					4" x 2" x .180" (7 ga.) Formed Channel
2.50" dia. x .120" wall and 2.56" dia. x .180" wall	B1064-2	#60A15 or #60A16	11/16" Hex	6" x 2" x .180" (7 ga.) Formed Channel	6" x 2" x .180" (7 ga.) Formed Channel
					4" x 2" x .180" (7 ga.) Formed Channel
3.50" dia. x .300" wall	B1084-2	#60A20	1-1/16" Hex	7" x 2" x .180" (7 ga.) Formed Channel	7" x 2" x .180" (7 ga.) Formed Channel
					5" x 2" x .180" (7 ga.) Formed Channel

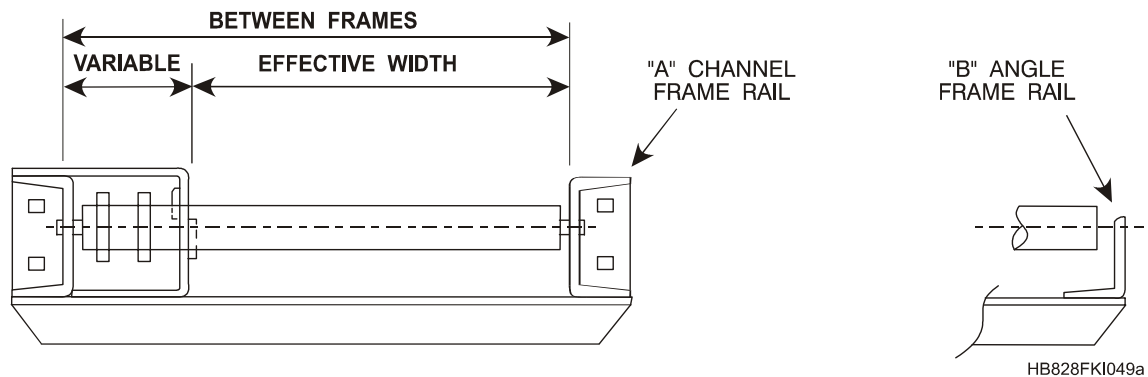
Tube Size	Roller Centers	Cross Brace	Chain Box Gauge	W		Effective Conveying Width	Chain	
				Minimum	Maximum		Roller Drive Chain Size	Max. Chain Pull
1.90" dia. x .109" wall	4"	2" x 2" x 1/4" Structural Angle	.120" (11 ga.)	18"	39"	W - 3-1/4"	#40	520#
	6"			in 3" increments				
	8"							
2.50" dia. x .120" wall and 2.56" dia. x .180" wall	4-1/2"	2" x 2" x 1/4" Structural Angle	.180" (7 ga.)	18"	60"	W-3-3/4"	#60	1200#
	6"			in 3" increments				
	7-1/2"							
3.50" dia. x .300" wall	6"	3" x 3" x 1/4" Structural Angle	.180" (7 ga.)	18"	72"	W-3-3/4"	#60	1200#
	9"			in 3" increments				
	12"							

Note: To order, see Component or Unit sections.

Roller to Roller Chain Driven Live Roller Conveyor - Available as an Engineered Product

(Preferred Construction For Engineered Standards Using Structural Frame Rails)

Typical Semi-Standard Construction				
Roller Dia.	Chain	Minimum Roller Centers	"A" Channel	"B" angle
1.90"	40	3-1/2"	5" at 7.7#	3-1/2" x 2-1/2" x 5/16"
1.90"	50	4-1/16"	5" at 6.7#	3-1/2" x 2-1/2" x 5/16"
1.90"	60	4-1/8"	6" at 8.2#	4" x 3" x 5/16"
2.50"	40	4-1/4"	5" at 6.7#	3-1/2" x 2-1/2" x 5/16"
2.50"	50	4-11/16"	5" at 6.7#	3-1/2" x 2-1/2" x 5/16"
2.50"	60	4-7/8"	6" at 8.2#	4" x 3" x 5/16"
2.56"	40	4-1/4"	5" at 6.7#	3-1/2" x 2-1/2" x 5/16"
2.56"	50	4-11/16"	5" at 6.7#	3-1/2" x 2-1/2" x 5/16"
2.56"	60	4-7/8"	6" at 8.2#	4" x 3" x 5/16"
2.56"	80	5-1/2"	6" at 8.2#	4" x 3" x 5/16"
2.75"	60	5-1/4"	6" at 8.2#	4" x 3" x 5/16"
2.75"	80	5-1/2"	6" at 8.2#	4" x 3" x 5/16"
3.50"	60	6"	7" at 9.8#	4" x 3" x 5/16"
3.50"	80	6-1/2"	8" at 11.5#	5" x 3-1/2" x 5/16"
3.50"	100	6-7/8"	8" at 11.5#	5" x 3-1/2" x 5/16"
4.0"	60	6-3/8"	7" at 9.8#	5" x 3-1/2" x 5/16"
4.0"	80	7"	8" at 11.5#	6" x 4" x 1/2"
4.0"	100	7-1/2"	8" at 11.5#	6" x 4" x 1/2"
4.25"	60	6-3/8"	7" at 9.8#	5" x 3-1/2" x 5/16"
4.25"	80	7"	8" at 11.5#	6" x 4" x 1/2"
4.25"	100	7-1/2"	9" at 13.4#	6" x 4" x 1/2"
5.0"	80	8"	9" at 13.4#	6" x 4" x 1/2"
5.0"	100	8-3/4"	10" at 15.3#	7" x 4" x 1/2"
6.50"	100	10"	10" at 15.3#	7" x 4" x 1/2"



For additional information, please contact your local Field Sales Office.

Chain Driven Live Roller Conveyor Units - Approximate Weight Per Foot

Note: Weights are based on formed channel frame.

SS CDLR					
Roller Centers	17" W lbs./ft.	23" W lbs./ft.	29" W lbs./ft.	35" W lbs./ft.	41" W lbs./ft.
4-1/2"	32	36	41	43	47
6"	29	31	35	37	40
90° Curve	106	182	258	358	430

RRCD190 - Intermediate Section								
Roller Centers	18" W lbs./ft.	21" W lbs./ft.	24" W lbs./ft.	27" W lbs./ft.	30" W lbs./ft.	33" W lbs./ft.	36" W lbs./ft.	39" W lbs./ft.
4"	40	42	45	48	51	53	56	58
6"	34	36	39	41	43	44	46	48
8"	33	35	36	37	38	39	41	42
90° Curve	240	270	300	300	317	330	345	360

For CFC Series II, add 10 lbs./ft. to the above weights.

RRCD250 - Intermediate Section								
Roller Centers	18" W lbs./ft.	24" W lbs./ft.	30" W lbs./ft.	36" W lbs./ft.	42" W lbs./ft.	48" W lbs./ft.	54" W lbs./ft.	60" W lbs./ft.
4-1/2"	64	71	80	88	96	104	110	117
6"	57	64	70	76	82	88	94	100
9"	50	56	61	66	71	76	81	86
90° Curve	590	600	610	655	700	745	790	845

For 6" @ 8.2# structural channel frame, add 3.5 lbs./ft.
 For CFC Series III, add 10 lbs./ft. to the above weights.

RRCD350 - Intermediate Section										
Roller Centers	18" W lbs./ft.	24" W lbs./ft.	30" W lbs./ft.	36" W lbs./ft.	42" W lbs./ft.	48" W lbs./ft.	54" W lbs./ft.	60" W lbs./ft.	66" W lbs./ft.	72" W lbs./ft.
6"	105	122	138	155	171	188	203	220	235	254
9"	89	101	112	125	137	149	160	172	183	195
12"	74	83	92	102	112	121	129	138	147	156
90° Curve	1150	1300	1450	1630	1810	2000	2170	2350	2530	2800

For 7" @ 9.8# structural channel frame, add 8 lbs./ft.
 For CFC Series IV, add 10 lbs./ft. to the above weights.

Controlled Flow Conveyor

Application Data - CFC Series II, III and IV - Available as an Engineered Product

Mathews Control Flow Conveyor Series II, III and IV are heavy duty live roller conveyors which permit accumulation of conveyed loads without build up of line pressure. Each consist of a series of interconnected conveying zones which are individually powered by the engagement of a pneumatically controlled low pressure air clutch.

The rollers in each zone are connected roller to roller by sprockets and chains. An air clutch is attached to one roller in each zone. Each zone is connected clutch to clutch by sprockets and chains. CFC Series II, III and IV are gearmotor driven.

Standard features are accumulation in one direction, single load release (singulation), and multiple load release (sequential). CFC Series II, III and IV may be reversed and used as transport conveyors for empty pallets.

How CFC Series II, III and IV Accumulation Operates

As products move onto Mathews CFC conveyors, and accumulation is to begin, a load entering the conveyor will be transported through the preceding zone and onto zone 1 at the discharge end of the conveyor, where it will depress a sensing roller. When this sensing device is depressed, the air pressure to the clutch is removed, thus removing driving power from zone 1. A signal is sent to zone 2 so that when its sensing device is depressed its clutch is likewise disengaged. This sequence is represented for accumulation in the remaining zones.

The release control at the exit end of the conveyor is a solenoid operated control valve. When an external electrical signal is received, it will release loads singularly or sequentially. Release of a load from zone 1 or removal of a load from any intermediate zone will restart the adjacent upstream zone to fill that empty zone.

Release Modes

Singulation

This type of release allows the exit of one product at a time with the issuance of an electrical remote signal. As the article leaves zone 1 sensing device, the signal is terminated, and the following products advance in a sequential fashion.

Sequential

This type of release allows the exit of product in a progressive fashion with the issuance of a maintained electrical signal. A gap (approximately equal to the zone length) is generated between articles.

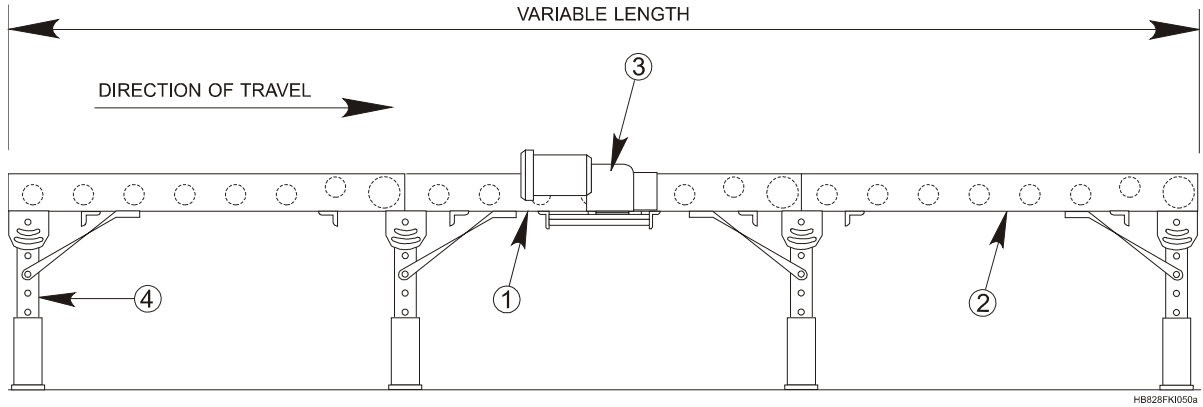
Application Information

In order to ensure actuation of the sensing rollers, the product to be conveyed must present a firm flat bottom surface to the conveyor rollers. In the case of pallets, at least one continuous bottom member must run the entire length of the pallet.

The standard zone lengths are 5'-0" and the maximum length for conveyed product should be 12" less than the zone length (6" less for CFC II only). The minimum length of a product to be conveyed is dependent upon the roller centers. For proper conveying at least three rollers should be under the article at all times. In the case of totes with sloped ends, the top and bottom dimension should both be taken into consideration. The minimum article weight is limited by the sensitivity of the sensing device. For CFC Series II, 15 lbs. minimum; CFC Series III, 30 lbs. minimum and CFC Series IV, 50lbs. minimum is required to actuate the zone sensing device. Mathews CFC Series II, III and IV use low pressure, non-lubricated dry air from 15 to 30 p.s.i. for its air logic control and actuation of the low pressure air clutches.

Units

CFC Series II - (1.90" dia. Rollers)



Basic Data	
1	Intermediate Drive Section
2	Conveyor Section
3	Motor/Reducer, HP as required at 58 RPM
4	3000# capacity Floor Supports

CAPACITY	Standard - 1500 lbs. maximum, 15 lbs. minimum per zone.
CONVEYOR WIDTH	Standard - 12" thru 63" Between Frames in 3" increments. Effective conveying width = $W - 3\text{-}1/4"$. Recommended Effective Width should be $\text{Product Width} + 3"$. Overall Width = $W + 9\text{-}1/2"$. Option - Other widths are available (consult factory).
DRIVE	Standard - Each zone is powered through a low pressure disc type air clutch, driven by clutch to clutch #40 roller chain loops from a right angle reducer located near the center of the conveyor. All drive components are enclosed for safety and dirt shielding.
CONVEYOR SECTION	Standard - 6" x 2" x .180" (7 ga.) roll formed rail on chain box side. 5" x 2" x .180" (7 ga.) roll formed rail on opposite chain box. Structural angle cross bracing. All welded construction.
COUPLINGS	Standard - Welded butt on both sides.
CARRYING ROLLERS	Standard - 1.90" dia. x .109" (12 ga.) steel with grease packed, sealed for life bearings and 7/16" hex axles on 4", 6" or 8" centers. Each roller fitted with 17 tooth #40 roller chain sprockets for roll to roll drive within zones. Rollers are mounted 13/16" low on side opposite chain box. Option - Regreaseable bearings are available.
ROLLERS HIGH	Option - A frame with a 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side for a roller 3/16" high is available.
BRAKES	Standard - To control product drift, brakes are included.
CHAIN	Standard - #40 roller chain for rollers #40 roller chain for clutches.
SUPPORTS	Standard - Floor type on maximum 10'-0" centers for a conveying height of 7'-1/2" thru 48" (3000# capacity).
MOTOR/REDUCER	Standard - 58 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, fan cooled, 30 FPM, 1-1/2 HP. Option - Maximum 2 HP.
LENGTHS	Standard - 10'-0" for 4" and 6" roller centers. 9'-4" for 8" roller centers. Option - Intermediate lengths are available.
ZONE LENGTHS	Standard - 5'-0" for maximum product length of 54" (4" and 6" roller centers). 4'-8" for maximum product length of 50" (8" roller centers). Option - Variable in increments of roller centers. Minimum 24", maximum 120" (minimum of three rollers under article).
CONTROL	Standard - air logic.
ELEVATION	Option 7'-1/4" minimum, 48" maximum.
SPEED CHANGES	Option - speeds 30 to 60 FPM.
DRIVE LOCATION	Option - Drive may be located at any zone location in length of conveyor within limitations of capacity calculations.
REVERSING	Option - Conveyor may be used for empty pallet transport in the reverse mode with additional controls.
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Conveyor Capacity Calculations (CFC II)

(A) For conveyors with the drive at or near the center of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{1120 \times (\text{Zone Length} + \text{Pallet Length})}{0.037 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(31 Zones Maximum Recommended)

(B) For conveyors with the drive at either end of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{560 \times (\text{Zone Length} + \text{Pallet Length})}{0.037 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(15 Zones Maximum Recommended)

Note: For Maximum Load/Zone, add 9 lbs. for each roller in the zone, less 1/2 lb. for each 3" that the W is less than 39"

HP = Output Horsepower, see table in the Engineering Data section, Dead Loads topic.

Speed = Conveyor Speed in FPM

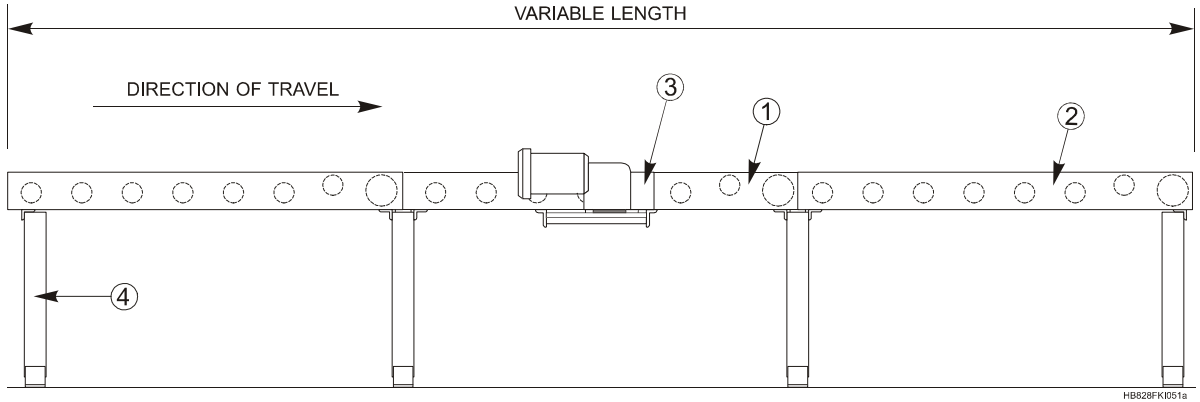
Length = Length in feet

(C) Zone Loading

Roller Centers	Between Frames	Maximum Allowable Load (lbs.) per Zone per Given Pallet Length. Based on Roller Capacities					
		18" Pallet Length	24" Pallet Length	30" Pallet Length	36" Pallet Length	42" Pallet Length	48" Pallet Length
4"	18"	710	1000	1150	1430	1500	1500
	27"	630	880	1000	1260	1380	1500
	39"	550	780	890	1110	1220	1450
6"	18"	570	710	860	1000	1150	1290
	27"	500	630	750	880	1000	1130
	39"	440	550	670	780	890	1000
8"	18"	DO NOT USE	570	570	710	860	1000
	27"		500	500	630	750	880
	39"		440	440	550	670	780

For additional data or for placing an order, please contact your local Field Sales Office.

Heavy Duty CFC Series III - (2.50" dia. Rollers)



Basic Data	
1	Intermediate Drive Section
2	Conveyor Section
3	Motor/Reducer, HP as required at 58 RPM
4	6000# capacity Floor Supports

CAPACITY	Standard - 3000 lbs. maximum, 30 lbs. minimum per zone.
CONVEYOR WIDTH	Standard - 18" thru 72" Between Frames in 3" increments. Effective Conveying Width = $W - 3\text{-}3/4"$. Recommended Effective Width should be $\text{Product Width} + 3"$. Overall Width = $W + 9\text{-}1/2"$ Option - Other widths are available (consult factory).
DRIVE	Standard - Each zone is powered through a low pressure disc type air clutch, driven by clutch to clutch #50 roller chain loops from a right angle reducer located near the center of the conveyor. All drive components are enclosed for safety and dirt shielding.
CONVEYOR SECTION	Standard - 6" x 2" x .180" (7 ga.) roll formed rails with structural angle cross bracing. All welded construction.
COUPLINGS	Standard - Welded butt on one side.
CARRYING ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel with grease packed, sealed for life bearings and 11/16" hex axles on 4", 4-1/2", 6", 7-1/2" or 9" centers. Each roller fitted with 21 tooth #40 roller chain sprockets for roll to roll drive within zones. rollers are mounted 1-3/4" low. Option - Regreaseable bearings are available.
ROLLERS HIGH	Option - A frame with a 6" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side for a roller 1/4" high is available.
BRAKES	Standard - To control product drift, brakes are included.
CHAIN	Standard - #40 roller chain for rollers. #50 roller chain for clutches.
SUPPORTS	Standard - Floor type on maximum 5'-0" approx. centers for a conveying height of 17" thru 48" (6000# capacity).
MOTOR/REDUCER	Standard - 58 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, fan cooled, 30 FPM, 1-1/2" HP. Option - Maximum 3 HP.
LENGTHS	Standard - 10'-0" (5'-0" drive section) for 4", 6", 7-1/2" or 9" roller centers. 9'-9" (4'-10-1/2" drive section) for 4-1/2" roller centers. Option - Intermediate lengths are available.
ZONE LENGTHS	Standard - 5'-0" for maximum product length of 48" (for 4", 6", 7-1/2" or 9" roller centers). 4'-10-1/2" for maximum product length of 58-1/2" (for 4-1/2" roller centers). Option - Variable in increments of roller centers. Minimum 36", except at drive, maximum 60" (minimum of three rollers under article).
CONTROL	Standard - Air logic.
ELEVATION	Option - 17" minimum, 48" maximum.
SPEED CHANGES	Option - Speeds 30 to 60 FPM.
DRIVE LOCATION	Option - Drive may be located at any zone location in length of conveyor within limitations of capacity calculations.
REVERSING	Option - Conveyor may be used for empty pallet transport in the reverse mode with additional controls.
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Conveyor Capacity Calculations (CFC III)

(A) For conveyors with the drive at or near the center of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{1750 \times (\text{Zone Length} + \text{Pallet Length})}{0.039 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(31 Zones Maximum Recommended)

(B) For conveyors with the drive at either end of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{875 \times (\text{Zone Length} + \text{Pallet Length})}{0.039 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(15 Zones Maximum Recommended)

Note: For Maximum Load/Zone, add 9 lbs. for each roller in the zone, less 1/2 lb. for each 3" that the W is less than 39"

HP = Output Horsepower, see table in the Engineering Data section, Dead Loads topic.

Speed = Conveyor Speed in FPM

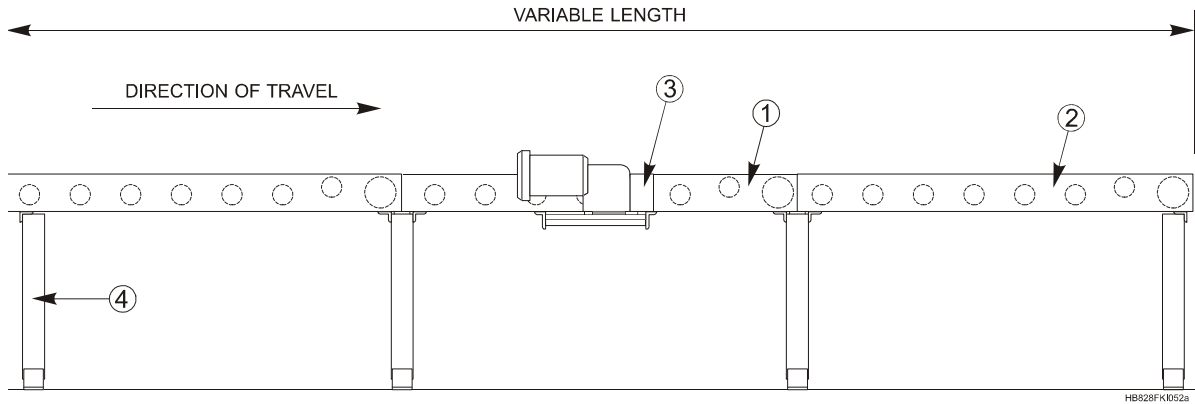
Length = Length in feet

(C) Zone Loading

Roller Centers	Between Frames	Maximum Allowable Load (lbs.) per Zone per Given Pallet Length. Based on Roller Capacities				
		24" Pallet Length	30" Pallet Length	36" Pallet Length	42" Pallet Length	48" Pallet Length
4"	Up to 48"	2380	2380	3000	3000	3000
	54"	2350	2350	3000	3000	3000
	60"	2170	2170	3000	3000	3000
6"	48"	1190	1780	2380	2380	3000
	54"	1180	1770	2350	2350	3000
	60"	1080	1630	2170	2170	2720
7-1/2"	48"	DO NOT USE	1190	1190	1790	2380
	54"	DO NOT USE	1180	1180	1770	2350
	60"	DO NOT USE	1090	1090	1630	2170

For additional data or for placing an order, please contact your local Field Sales Office.

Extra Heavy Duty CFC Series IV - (3.50" dia. Rollers)



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Basic Data	
1	Intermediate Drive Section
2	Conveyor Section
3	Motor/Reducer, HP as required at 44 RPM
4	12,000# capacity Floor Supports

CAPACITY	Standard - 6000 lbs. maximum, 50 lbs. minimum per zone.
CONVEYOR WIDTH	Standard - 18" thru 78" Between Frame in 3" increments. Effective Conveying Width = $W - 3\text{-}3/4"$. Recommended Effective Width should be Product Width + 3". Overall Width = $W + 10"$. Option - Other widths are available (consult factory).
DRIVE	Standard - Each zone is powered through a low pressure disc type air clutch, driven by clutch to clutch #60 roller chain loops from a right angle reducer located near the center of the conveyor. All drive components are enclosed for safety and dirt shielding.
CONVEYOR SECTION	Standard - 7" x 2" x .180" (7 ga.) roll formed rails with structural angle cross bracing. All welded construction.
COUPLINGS	Standard - Welded butt on one side.
CARRYING ROLLERS	Standard - 3.50" dia. x .300" wall steel with grease packed, sealed for life bearings and 1-1/16" hex axles on 6", 7-1/2" or 9" centers. Each roller fitted with 20 tooth #60 roller chain sprockets for roll to roll drive within zones. Rollers are mounted 1-3/4" low. Option - Regreaseable bearings are available.
ROLLERS HIGH	Option - A frame with a 7" x 2" x .180" (7 ga.) formed steel channel on the chain side and a 5" x 2" x .180" (7 ga.) formed steel channel on the opposite side for a roller 1/4" high is available.
BRAKES	Standard - to control product drift, brakes are included.
CHAIN	Standard - #60 roller chain for rollers and for clutches.
SUPPORTS	Standard - Floor type on maximum 5'-0" centers for a conveying height of 18" thru 48" (12,000# capacity).
MOTOR/REDUCER	Standard - 44 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, fan cooled, 30 FPM, 1-1/2 HP. Option - Maximum 3 HP.
LENGTHS	Standard - 10'-0" (5'-0" drive section). Option - Intermediate lengths are available.
ZONE LENGTHS	Standard - 5'-0" (for maximum product length of 48"). Option - Variable in increments of roller centers. Minimum 42", except at drive, maximum 60" (minimum of three rollers under article).
CONTROL	Standard - Air logic.
ELEVATION	Option - 18" minimum, 48" maximum.
SPEED CHANGES	Option - speeds 30 to 60 FPM.
DRIVE LOCATION	Option - Drive may be located at any zone location in length of conveyor within limitations of capacity calculations.
REVERSING	Option - Conveyor may be used for empty pallet transport in the reverse mode with additional controls.
ELECTRICAL CONTROLS	Option - As required (see Controls section).

Conveyor Capacity Calculations (CFC IV)

(A) For conveyors with the drive at or near the center of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{2400 \times (\text{Zone Length} + \text{Pallet Length})}{0.043 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(31 Zones Maximum Recommended)

(B) For conveyors with the drive at either end of the conveyor, limit the maximum number of zones per conveyor to the lesser of:

$$\text{Zones/Conveyor} = \frac{33,000 \times \text{HP} \times (\text{Zone Length} + \text{Pallet Length})}{0.0625 \times \text{Speed} \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

$$\text{Zones/Conveyor} = \frac{1200 \times (\text{Zone Length} + \text{Pallet Length})}{0.043 \times \text{Zone Length} \times \text{Maximum Load/Zone}}$$

(15 Zones Maximum Recommended)

Note: For Maximum Load/Zone, add 9 lbs. for each roller in the zone, less 1/2 lb. for each 3" that the W is less than 39"

HP = Output Horsepower, see table in the Engineering Data section, Dead Loads topic.

Speed = Conveyor Speed in FPM

Length = Length in feet

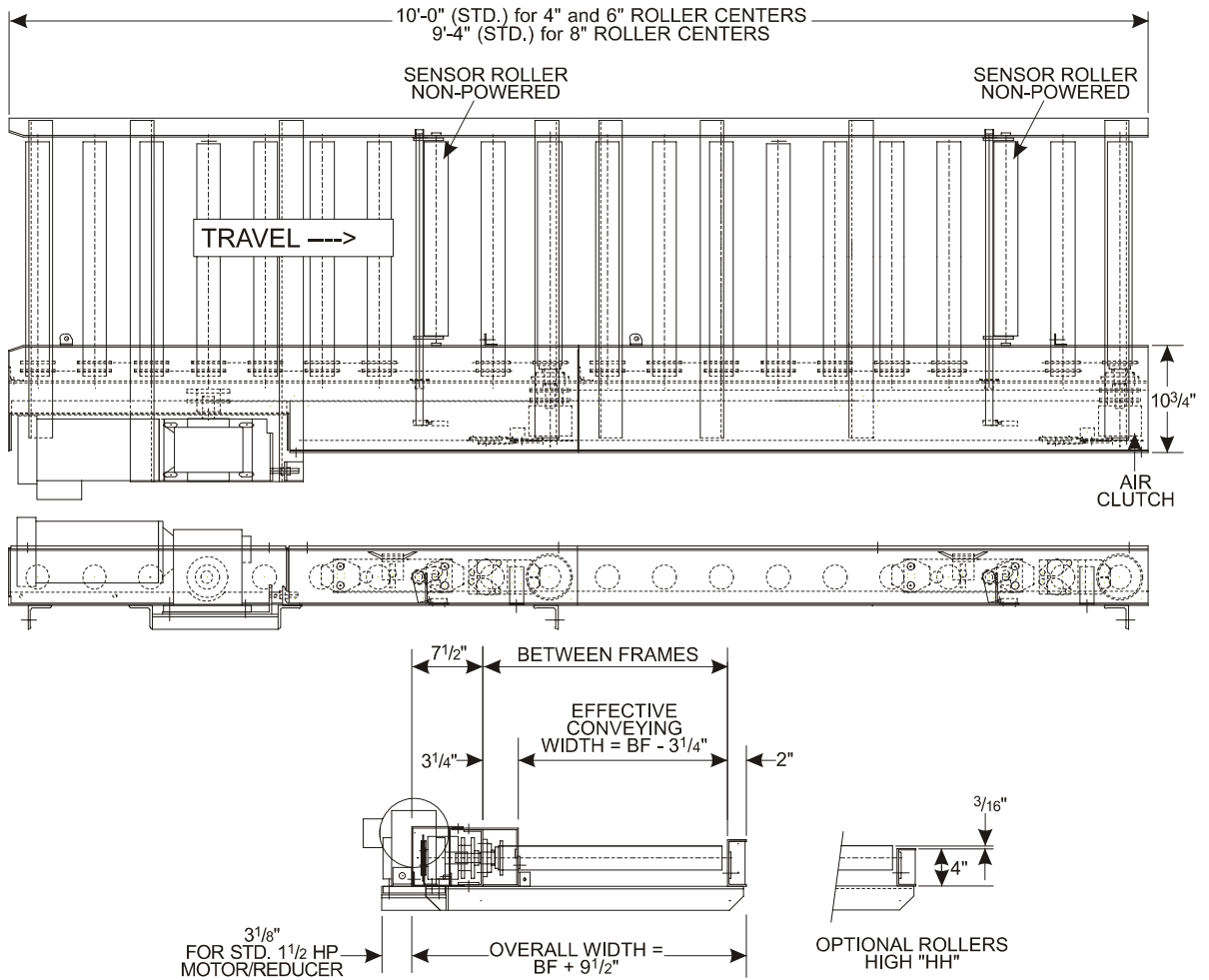
(C) Zone Loading

Roller Centers	Between Frames	Maximum Allowable Load (lbs.) per zone per given Pallet Length. Based on Roller Capacities				
		24" Pallet Length	30" Pallet Length	36" Pallet Length	42" Pallet Length	48" Pallet Length
6"	Up to 48"	4920	6000	6000	6000	6000
	54"	4880	6000	6000	6000	6000
	60"	4850	6000	6000	6000	6000
7-1/2"	48"	DO	4920	4920	6000	6000
	54"	NOT USE	4880	4880	6000	6000
	60"	NOT USE	4850	4850	6000	6000
9"	48"	DO	DO	4920	4920	6000
	54"	NOT USE	NOT USE	4880	4880	6000
	60"	NOT USE	NOT USE	4850	4850	6000

For additional data or for placing an order, please contact your local field sales office.

Components

CFC Series II - Drive Section (1.90" dia. Rollers)

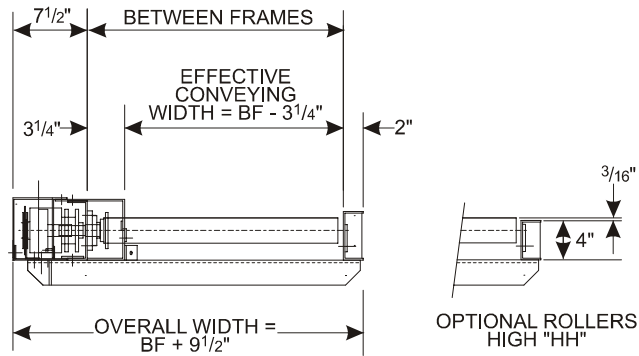
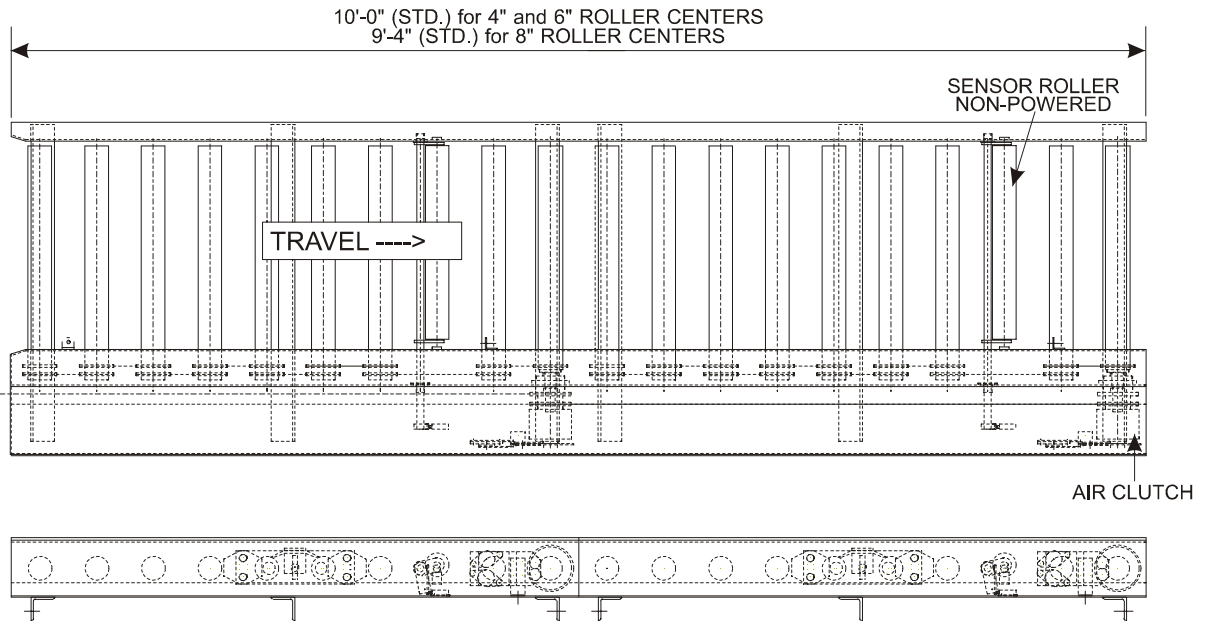


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CONVEYOR WIDTH	Standard - 12" thru 63" Between Frames in 3" increments.
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on chain box side. 5" x 2" x .180" (7 ga.) formed steel channel on side opposite chain box.
ZONE LENGTHS	Standard - 5'-0" (24" min. thru 60" max.) for 4" roller centers. 5'-0" (30" min. thru 60" max.) for 6" roller centers. 4'-8" (40" min. thru 56" max.) for 8" roller centers.
COUPLINGS	Standard - Welded butt.
ROLLER SPACING	Standard - 4", 6" or 8" centers.
ROLLERS	Standard - 1.90" dia. x .109" (12 ga.) steel rollers with grease packed, sealed for life bearings and 7/16" hex axles. Two (2) 40A17 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side. 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side.
BRAKE	Standard - To control product drift, brakes are included.
CHAIN	Standard - #40 roller chain for rollers and #40 roller chain for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.
MOTOR/REDUCER	Standard - 58 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, fan cooled, 1-1/2 HP.
CONTROL	Standard - Air logic.
DRIVE LOCATION	Standard - Drive may be located at any zone location in the length of the conveyor within limitations of capacity calculations (see Unit section for calculations).
SPEED CHANGES	Standard - Speeds 30 to 60 FPM.

For additional data or placing an order, please contact your local Field Sales Office.

CFC Series II - Intermediate Conveyor Section (1.90" dia. Rollers)

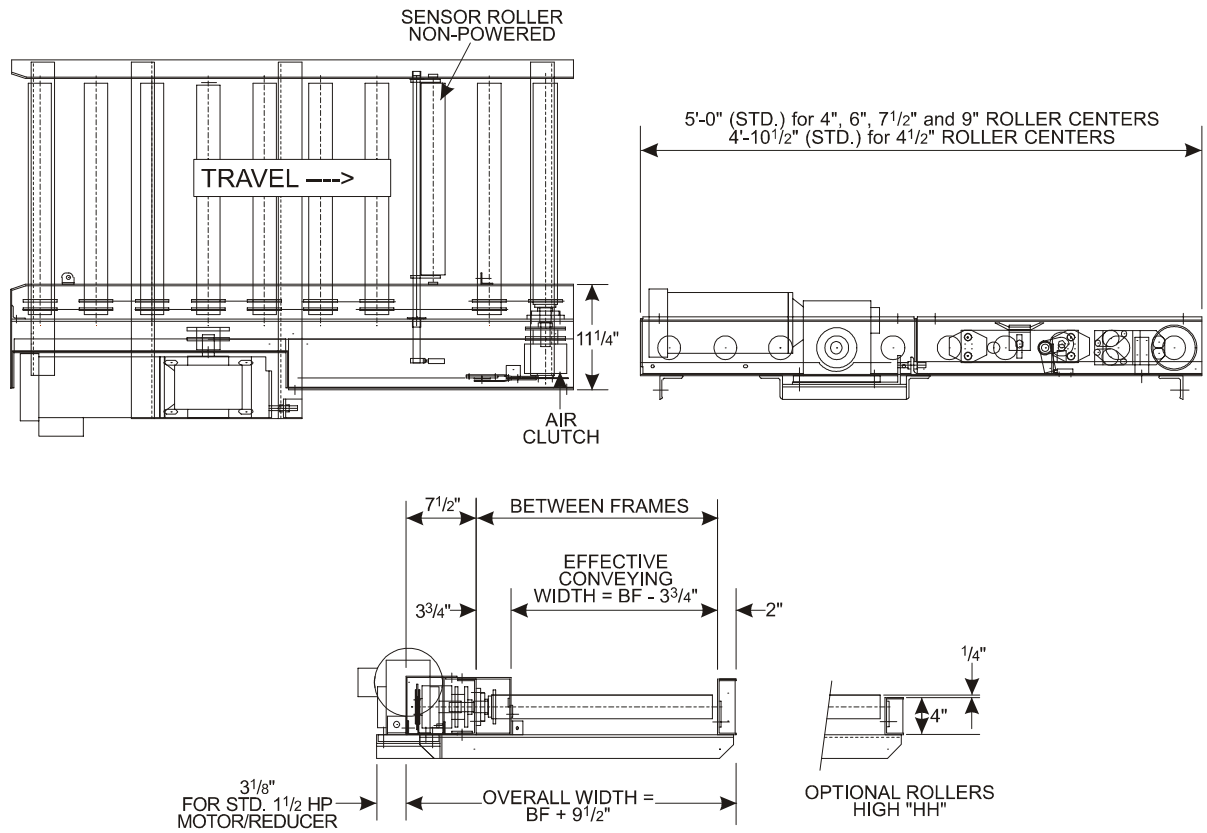


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CONVEYOR WIDTH	Standard - 12" thru 63" Between Frames in 3" increments.
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on chain box side. 5" x 2" x .180" (7 ga.) formed steel channel on side opposite chain box.
ZONE LENGTHS	Standard - 5'-0" (24" min. thru 60" max.) for 4" roller centers. 5'-0" (30" min. thru 60" max.) for 6" roller centers. 4'-8" (40" min. thru 56" max.) for 8" roller centers.
COUPLINGS	Standard - Welded butt on both sides.
ROLLER SPACING	Standard - 4", 6" or 8" centers.
ROLLERS	Standard - 1.90" dia. x .109" (12 ga.) steel rollers with grease packed, sealed for life bearings and 7/16" hex axles. Two (2) 40A17 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH (One Side)	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side. 4" x 2" x .180" (7 ga.) formed steel channel on opposite side.
CHAIN	Standard - #40 roller chain for rollers and #40 roller chain for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.

For additional data or placing an order, please contact your local Field Sales Office.

Heavy Duty CFC Series III - Drive Section (2.50" dia. Rollers)

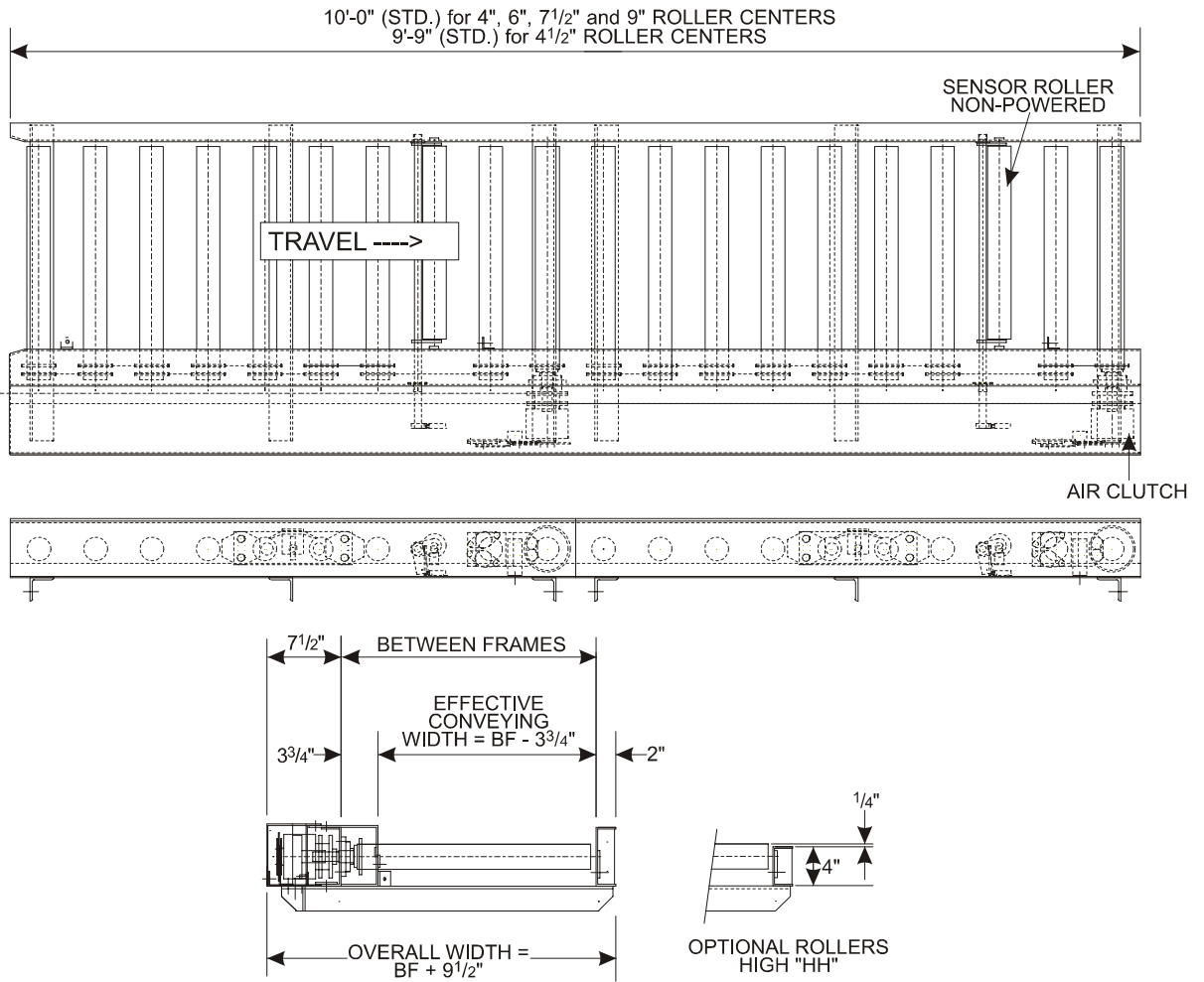


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CONVEYOR WIDTH	Standard - 18" thru 72" Between Frames in 3" increments.
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides.
ZONE LENGTHS	Standard - 5'-0" (36" min.-60" max.) for 4" roller centers. 4'-10-1/2" (36" min. - 58-1/2" max.) for 4-1/2" roller centers 5'-0" (42" min.-60" max.) for 6" or 9" roller centers. 5'-0" (45" and 60") for 7-1/2" roller centers.
COUPLINGS	Standard - Welded butt on side opposite chain guard.
ROLLER SPACING	Standard - 4", 4-1/2", 6", 7-1/2" or 9" centers.
ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel rollers with grease packed, sealed for life bearings and 11/16" hex axles. Two (2) 40A21 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side. 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side.
BRAKE	Standard - To control product drift, brakes are included.
CHAIN	Standard - #40 roller chain for rollers and #50 roller chain for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.
MOTOR/REDUCER	Standard - 58 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volt, totally enclosed motor, fan cooled, 1-1/2 HP.
CONTROL	Standard - Air logic.
DRIVE LOCATION	Standard - Drive may be located at any zone location in the length of the conveyor within limitations of capacity calculations (see Unit section for calculations).
SPEED CHANGES	Standard - speeds 30 to 60 FPM.

For additional data or placing an order, please contact your local Field Sales Office.

Heavy Duty CFC Series III - Intermediate Conveyor Section (2.50" dia. Rollers)

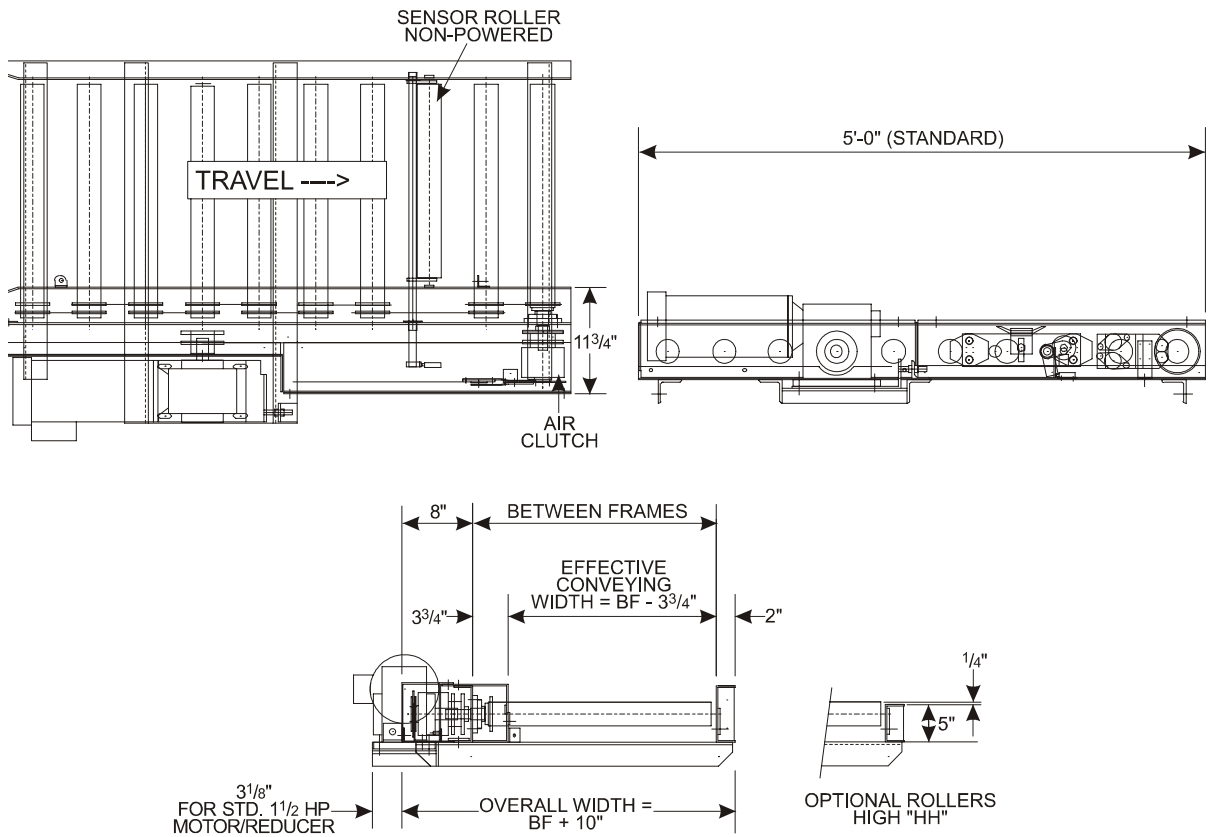


HB828FKI056a

CONVEYOR WIDTH	Standard - 18" thru 72" Between Frames in 3" increments.
FRAME	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on both sides.
ZONE LENGTHS	Standard - 5'-0" (48" min.-60" max.) for 4" or 6" roller centers. 4'-10-1/2" (49-1/2" min. - 58-1/2" max.) for 4-1/2" roller centers 5'-0" (52-1/2" min.-60" max.) for 7-1/2" roller centers. 5'-0" (51" and 60") for 9" roller centers.
COUPLINGS	Standard - Welded butt on side opposite chain guard.
ROLLER SPACING	Standard - 4", 4-1/2", 6", 7-1/2" or 9" centers.
ROLLERS	Standard - 2.50" dia. x .120" (11 ga.) steel rollers with grease packed, sealed for life bearings and 11/16" hex axles. Two (2) 40A21 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH	Standard - 6" x 2" x .180" (7 ga.) formed steel channel on the chain side. 4" x 2" x .180" (7 ga.) formed steel channel on the opposite side.
CHAIN	Standard - #40 roller chain for rollers and #50 roller chain for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.

For additional data or placing an order, please contact your local Field Sales Office.

Extra Heavy Duty CFC Series IV - Drive Section (3.50" dia. Rollers)

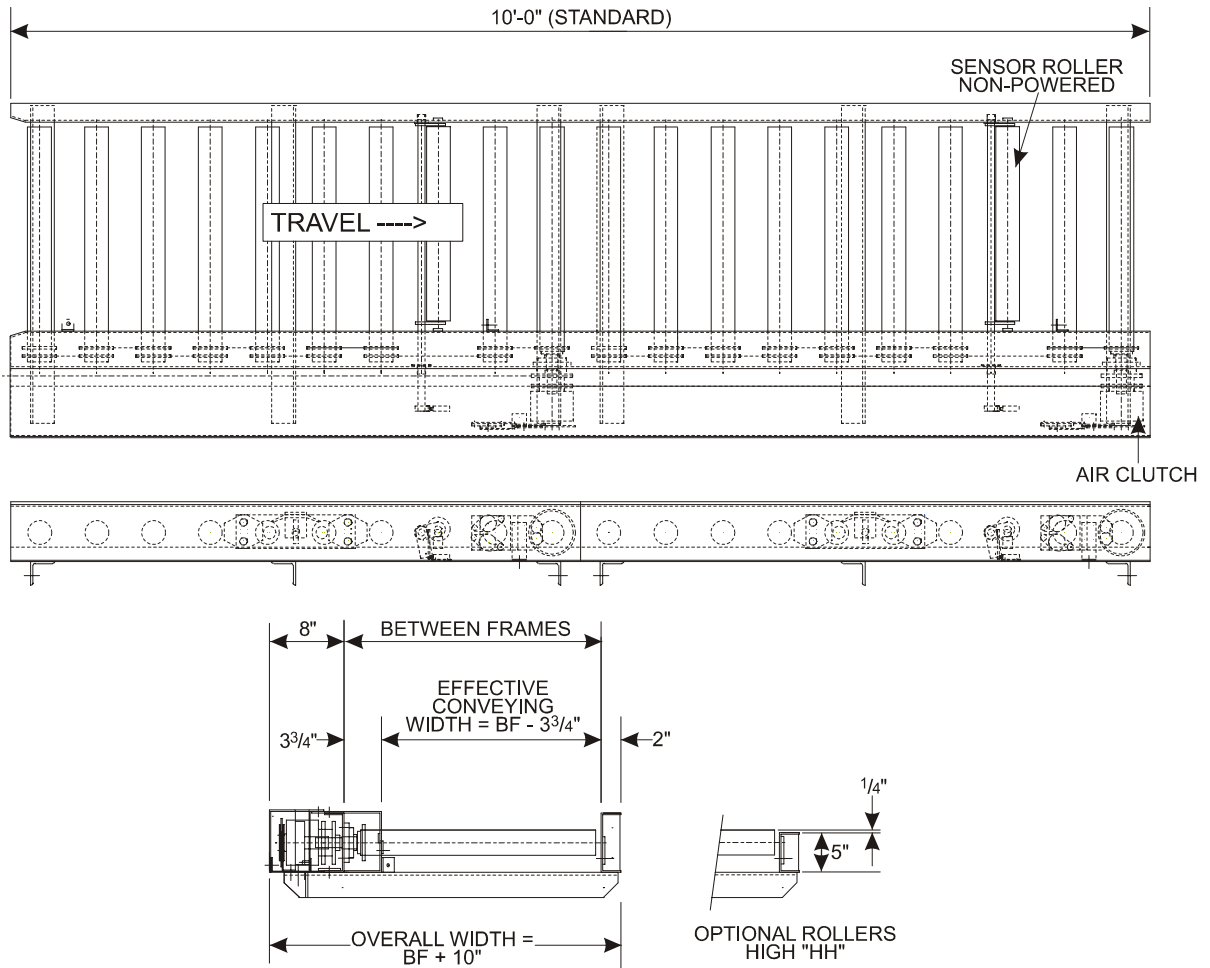


HB828FKI057a

CONVEYOR WIDTH	Standard - 18" thru 78" Between Frame in 3" increments.
FRAME	Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
ZONE LENGTHS	Standard - 5'-0" (48" min. thru 60" max.) for 6" roller centers. 5'-0" (52-1/2" min. thru 60" max.) for 7-1/2" roller centers. 5'-0" (51" min. thru 60" max.) for 9" roller centers.
COUPLINGS	Standard - Welded butt on side opposite chain guard.
ROLLER SPACING	Standard - 6", 7-1/2" or 9" centers.
ROLLERS	Standard - 3.50" dia. x .300" wall steel with grease packed, sealed for life bearings and 1-1/16" hex axles. Two (2) 60A20 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH	Standard - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side. 5" x 2" x .180" (7 ga.) formed steel channel on the opposite side.
BRAKE	Standard - To control product drift, brakes are included.
CHAIN	Standard - #60 roller chain for rollers and for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.
MOTOR/REDUCER	Standard - 44 RPM right angle reducer, 3 phase, 60 hertz, 230/460 volts, totally enclosed motor, fan cooled, 1-1/2 HP.
CONTROL	Standard - Air logic.
DRIVE LOCATION	Standard - Drive may be located at any zone location in the length of the conveyor within limitations of capacity calculations (see Unit section calculations).
SPEED CHANGES	Standard - Speeds 30 to 60 FPM.

For additional data or placing an order, please contact your local Field Sales Office.

Extra Heavy Duty CFC Series IV - Intermediate Conveyor Section (3.50" dia. Rollers)



HB828FKI058a

CONVEYOR WIDTH	Standard - 18" thru 78" Between Frames in 3" increments.
FRAME	Standard - 7" x 2" x .180" (7 ga.) formed steel channel on both sides.
ZONE LENGTHS	Standard - 5'-0" (42" min. thru 60" max.) for 6" or 9" roller centers. 5'-0" (45" min. thru 60" max.) for 7-1/2" roller centers.
COUPLINGS	Standard - Welded butt on side opposite chain guard.
ROLLER SPACING	Standard - 6", 7-1/2" or 9" centers.
ROLLERS	Standard - 3.50" dia. x .300" wall steel with grease packed, sealed for life bearings and 1-1/16" hex axles. Two (2) 60A20 sprockets welded to each roller. Option - Regreaseable bearings are available.
ROLLERS HIGH	Standard - 7" x 2" x .180" (7 ga.) formed steel channel on the chain side. 5" x 2" x .180" (7 ga.) formed steel channel on the opposite side.
CHAIN	Standard - #60 roller chain for rollers and for clutches.
CHAIN COVER	Standard - Fully enclosed scalloped chain guard for rollers and fully enclosed guard for clutches.

For additional data or placing an order, please contact your local Field Sales Office.

Supports

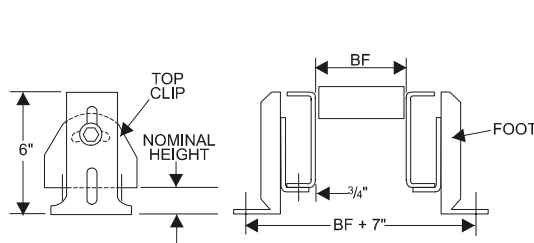
C1230 Floor Single Leg Floor Support - 750 Pound Capacity

C1231 Floor Support - 1500 Pound Capacity

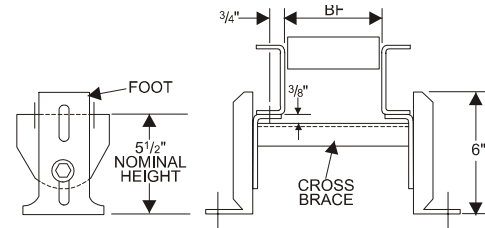
HOW TO ORDER

Description	Quantity	Code No.	W	Nominal Height	Knee Brace (if required)
Single Leg	1	C1230	SL*	28"	KB
Double Leg	1	C1231	21"	34"	KB

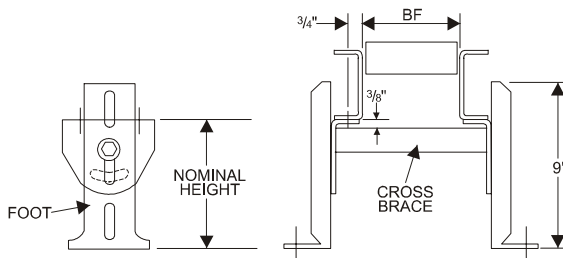
*SL denotes single leg



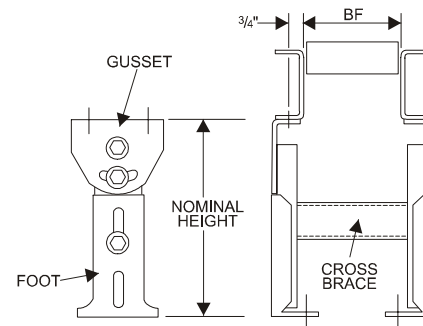
Nominal Heights 2-1/8", ± 1-1/2" Adjustment



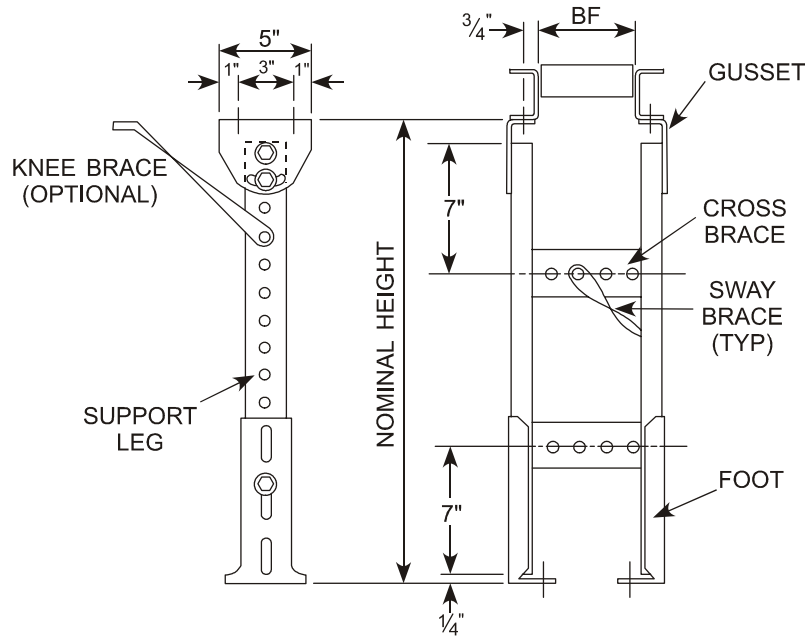
Nominal Heights 5-1/2", ± 1-1/2" Adjustment
HB828FK1059a



Nominal Heights 7-3/4", ± 2-1/4" Adjustment



Nominal Heights 11-1/2", ± 1-1/2" Adjustment
HB828FK1060a



HB828FKI061a

Standard widths 6" to 51" Between Frames in 3" increments.

Heights range from 5/8" to 127" maximum.

Use (1) 3/8" diameter anchor bolt per support foot.

Sway bracing standard above 72" nominal height.

OPTIONS

Knee braces are available for supports with a nominal height over 16". (Add "KB" on How To Order).

For single leg supports, specify C1230 floor support on How To Order. Single leg support has a maximum capacity of 750 pounds.

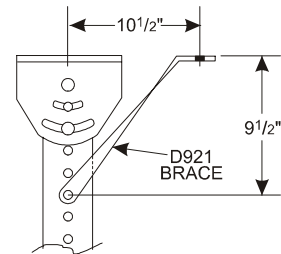
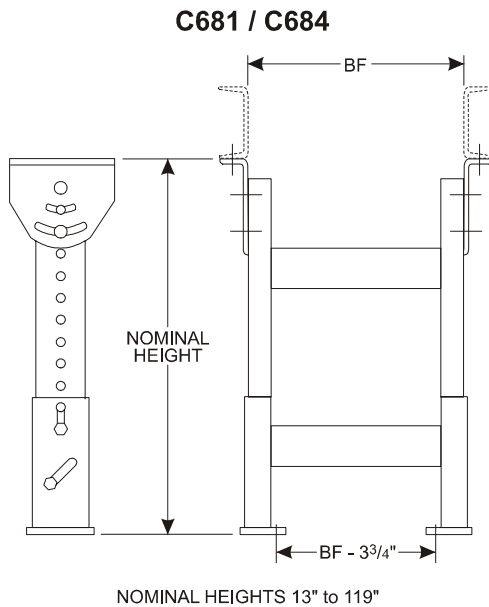
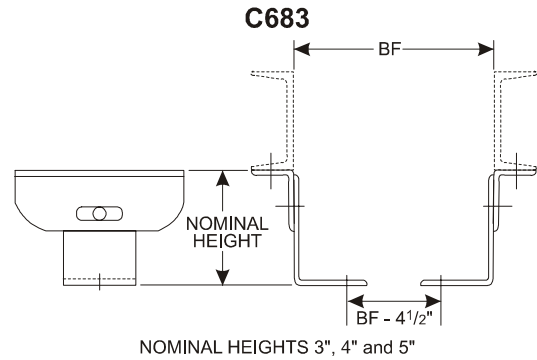
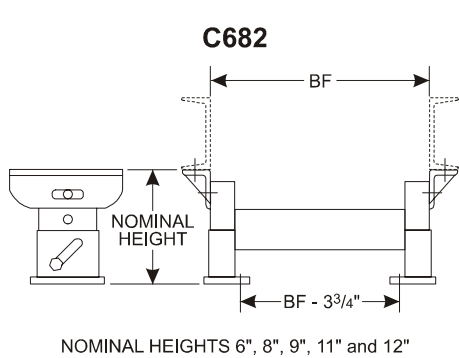
SUPPORT SELECTION TABLE				
Nominal Height	Minimum Height	Maximum Height	Adjustment	Cross Brace
2-1/8"	5/8"	3-5/8"	3"	0
5-1/2"	4"	7"	3"	1
7-3/4"	5-1/2"	10"	4-1/2"	1
11-1/2"	10"	13"	3"	1
13"	11-1/2"	14-1/2"	3"	1
16"	13"	19"	6"	1
19"	16"	22"	6"	1
22"	19"	25"	6"	1
25"	22"	28"	6"	2
28"	25"	31"	6"	2
31"	28"	34"	6"	2
34"	31"	37"	6"	2
37"	34"	40"	6"	2
40"	37"	43"	6"	2
43"	40"	46"	6"	2
46"	43"	49"	6"	2
49"	46"	52"	6"	2
52"	49"	55"	6"	2
55"	52"	58"	6"	3
58"	55"	61"	6"	3
61"	58"	64"	6"	3
64"	61"	67"	6"	3
67"	64"	70"	6"	3
70"	67"	73"	6"	4
73"	70"	76"	6"	4
76"	73"	79"	6"	4
79"	76"	82"	6"	4
82"	79"	85"	6"	4
85"	82"	88"	6"	4
88"	85"	91"	6"	4
91"	88"	94"	6"	4
94"	91"	97"	6"	4
97"	94"	100"	6"	4
100"	97"	103"	6"	4
103"	100"	106"	6"	4
106"	103"	109"	6"	4
109"	106"	112"	6"	4
112"	109"	115"	6"	4
115"	112"	118"	6"	4
118"	115"	121"	6"	4
121"	118"	124"	6"	4
124"	121"	127"	6"	4

Available in 1-1/2" increments.

C681, C682, C683 and C684 Series - 3000 Pound Capacity Floor Supports

HOW TO ORDER

Description	Quantity	Code No.	W	Nominal Height
Double Leg	7	C684	33"	43"



HB828FKI062a

WIDTHS	Standard - 6" through 51" Between Frames.
HEIGHTS	Standard - 3" to 119" maximum.
KNEE BRACES	Standard - Knee braces are standard at 23" nominal height and above.
Use (1) 3/8" diameter anchor bolt per support foot.	

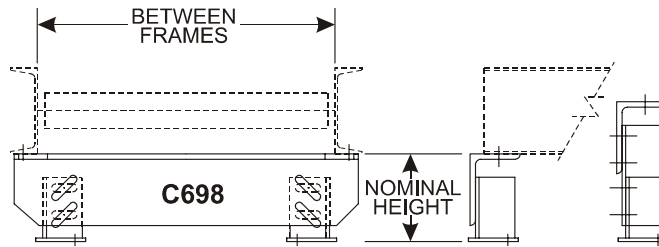
SUPPORT SELECTION TABLE					
Code No.	Nominal Height	Minimum Height	Maximum Height	Adjustment	Cross Brace
C683	3"	2-3/4"	3-3/4"	1"	0
	4"	3-3/4"	4-3/4"	1"	0
	5"	4-3/4"	5-3/4"	1"	0
C682	6"	5-1/2"	7"	1-1/2"	1
	8"	7"	8-1/2"	1-1/2"	1
	9"	8-1/2"	10"	1-1/2"	1
	11"	10"	11-1/2"	1-1/2"	1
	12"	11-1/2"	13"	1-1/2"	1
C681	13"	11-1/2"	14-1/2"	3"	1
	14"	13"	16"	3"	1
	16"	14-1/2"	17-1/2"	3"	1
	17"	16"	19"	3"	1
	19"	17-1/2"	20-1/2"	3"	1
	20"	19"	22"	3"	1
	22"	20-1/2"	23-1/2"	3"	2
	*23"	22"	25"	3"	2
	25"	23-1/2"	26"	3"	2
	26"	25"	28"	3"	2
	28"	26-1/2"	29-1/2"	3"	2
C684	29"	28"	31"	3"	2
	31"	29-1/2"	32-1/2"	3"	2
	32"	31"	34"	3"	2
	34"	32-1/2"	35-1/2"	3"	2
	35"	34"	37"	3"	2
	37"	35-1/2"	38-1/2"	3"	2
	38"	37"	40"	3"	2
	40"	38-1/2"	41-1/2"	3"	2
	41"	40"	43"	3"	2
	43"	41-1/2"	44-1/2"	3"	2
	44"	43"	46"	3"	2
	46"	44-1/2"	47-1/2"	3"	2
	47"	46"	49"	3"	2
	49"	47-1/2"	50-1/2"	3"	2
	50"	49"	52"	3"	3
	52"	50-1/2"	53-1/2"	3"	3
	53"	52"	55"	3"	3
	55"	53-1/2"	56-1/2"	3"	3
	56"	55"	58"	3"	3
58"	56-1/2"	59-1/2"	3"	3	
59"	58"	61"	3"	3	

SUPPORT SELECTION TABLE					
Code No.	Nominal Height	Minimum Height	Maximum Height	Adjustment	Cross Brace
C684	61"	59-1/2"	62-1/2"	3"	
	62"	61"	64"	3"	3
	64"	62-1/2"	65-1/2"	3"	3
	65"	64"	67"	3"	3
	67"	65-1/2"	68-1/2"	3"	3
	68"	67"	70"	3"	3
	70"	68-1/2"	71-1/2"	3"	3
	71"	70"	73"	3"	3
	73"	71-1/2"	74-1/2"	3"	3
	76"	74-1/2"	77-1/2"	3"	4
	77"	76"	79"	3"	4
	79"	77-1/2"	80-1/2"	3"	4
	80"	79"	82"	3"	4
	82"	80-1/2"	83-1/2"	3"	4
	83"	82"	85"	3"	4
	85"	83-1/2"	86-1/2"	3"	4
	86"	85"	88"	3"	4
	88"	86-1/2"	89-1/2"	3"	4
	89"	88"	91"	3"	4
	91"	89-1/2"	92-1/2"	3"	4
	92"	91"	94"	3"	4
	94"	92-1/2"	95-1/2"	3"	4
	95"	94"	97"	3"	4
	97"	95-1/2"	98-1/2"	3"	4
	98"	97"	100"	3"	4
	100"	98-1/2"	101-1/2"	3"	4
	101"	100"	103"	3"	4
	103"	101-1/2"	104-1/2"	3"	4
	104"	103"	106"	3"	4
	106"	104-1/2"	107-1/2"	3"	4
107"	106"	109"	3"	4	
109"	107-1/2"	110-1/2"	3"	4	
110"	109"	112"	3"	4	
112"	110-1/2"	113-1/2"	3"	4	
113"	112"	115"	3"	4	
115"	113-1/2"	116-1/2"	3"	4	
116"	115"	118"	3"	4	
118"	116-1/2"	119-1/2"	3"	4	
119"	118"	121"	3"	4	

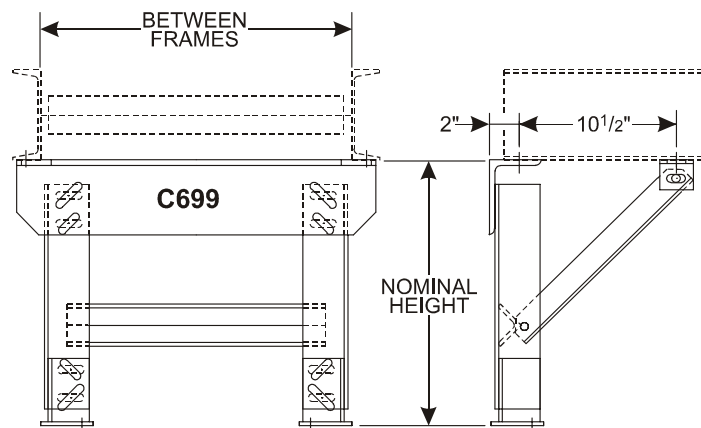
Note: *Knee braces included in price on nominal heights 23" and up.

C698 and C699 Series - 6000 pound capacity Floor Supports
HOW TO ORDER

Quantity	Code No.	W	Nominal Height	Frame Rail Size
3	C699	33"	25"	6" X 2" X .180" Channel



Nominal Heights 6-1/8" to 10-3/4", ± 1/2" Adjustment



HB828FKI063a

Nominal Heights 13" to 71" in 2" increments, ± 1" Adjustment

WIDTH	Standard - 18" thru 60" Between Frames.
HEIGHTQ	Standard - 6-1/8" minimum to 71" maximum.
KNEE BRACES	Standard - Knee braces are standard at 19" nominal height and above.
Use (1) 1/2" diameter anchor bolt per support foot.	
Conveyor fame rail size is required to determine length of support top angle.	

SUPPORT SELECTION TABLE					
Code No.	Nominal Height	Minimum Height	Maximum Height	Adjustment	Cross Brace
C698	6-1/8"	5-5/8"	6-5/8"	1"	0
	7-1/8"	6-5/8"	7-5/8"	1"	0
	8-5/8"	8-1/8"	9-1/8"	1"	0
	9-3/4"	9-1/4"	10-1/4"	1"	0
	10-3/4"	10-1/4"	11-1/4"	1"	0
C699	13"	12"	14"	2"	1
	15"	14"	16"	2"	1
	17"	16"	18"	2"	1
	19"	18"	20"	2"	1
	21"	20"	22"	2"	1
	23"	22"	24"	2"	1
	25"	24"	26"	2"	1
	27"	26"	28"	2"	1
	29"	28"	30"	2"	1
	31"	30"	32"	2"	1
	33"	32"	34"	2"	1
	35"	34"	36"	2"	1
	37"	36"	38"	2"	2
	39"	38"	40"	2"	2
	41"	40"	42"	2"	2
	43"	42"	44"	2"	2
	45"	44"	46"	2"	2
	47"	46"	48"	2"	2
	49"	48"	50"	2"	2
	51"	50"	52"	2"	2
	53"	52"	54"	2"	2
	55"	54"	56"	2"	2
	57"	56"	58"	2"	2
	59"	58"	60"	2"	2
	61"	60"	62"	2"	3
63"	62"	64"	2"	3	
65"	64"	66"	2"	3	
67"	66"	68"	2"	3	
69"	68"	70"	2"	3	
71"	70"	72"	2"	3	

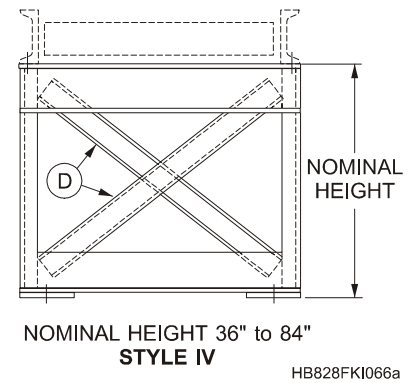
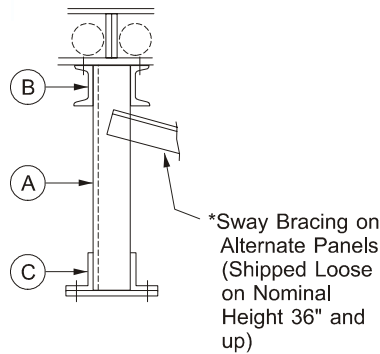
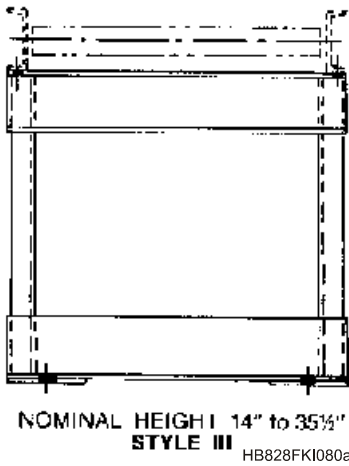
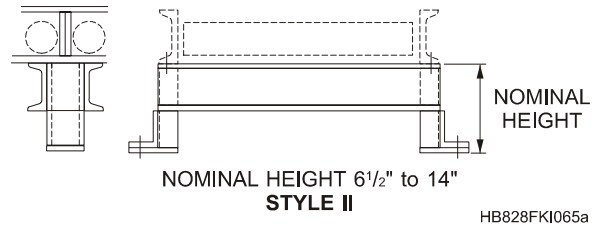
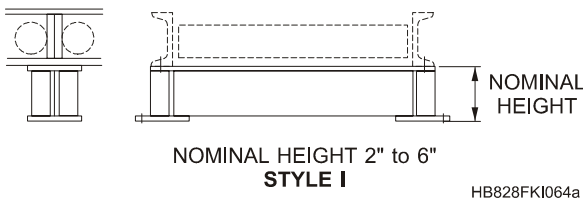
C1570 - Floor Support - 12,000 or 25,000 Pound Capacity (Formerly E-609)

HOW TO ORDER

Quantity	Code No.	W	Nominal Height	Frame Rail Type	Capacity
4	C1570	45"	24"	LR	12,000#

Nominal height is fixed.

Frame rail size is required in How To Order so the hole location in the support will match that of the frame rail.



	12,000# Capacity	25,000# Capacity
A	5" at 6.7# Channel	8" at 11.5# Channel
B	5" at 6.7# Channel	8" at 11.5" Channel
C	5" x 3-1/2" x 5/16" Angle	6" x 4" x 1/2" Angle
D	3" at 4.1# Channel	4" at 5.4# Channel

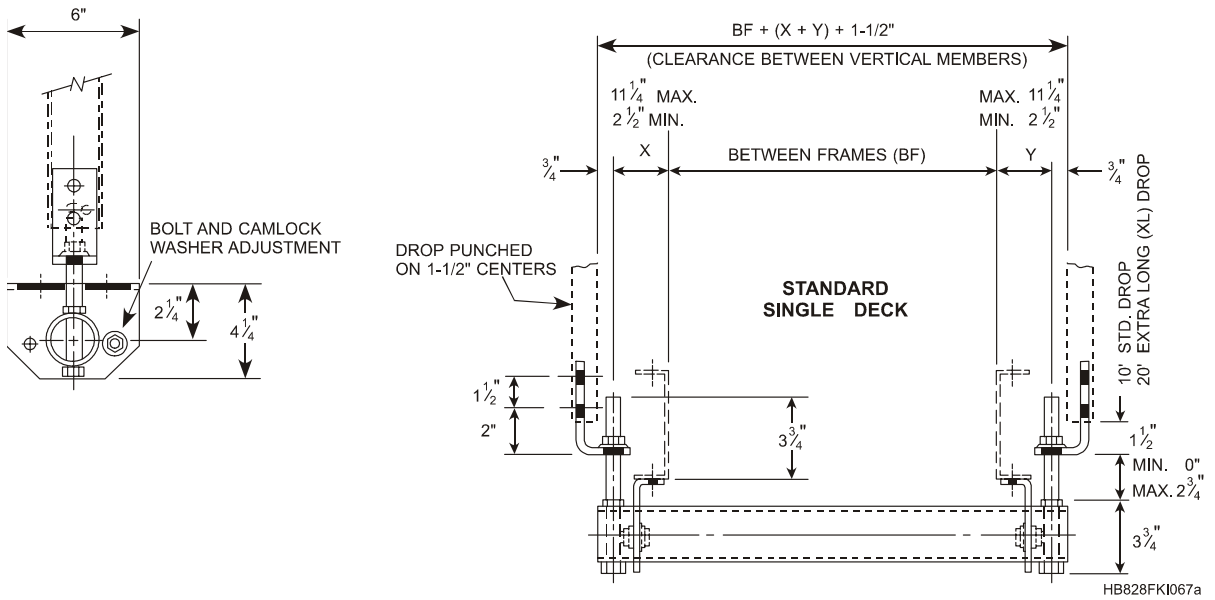
For Types II and IV Only.

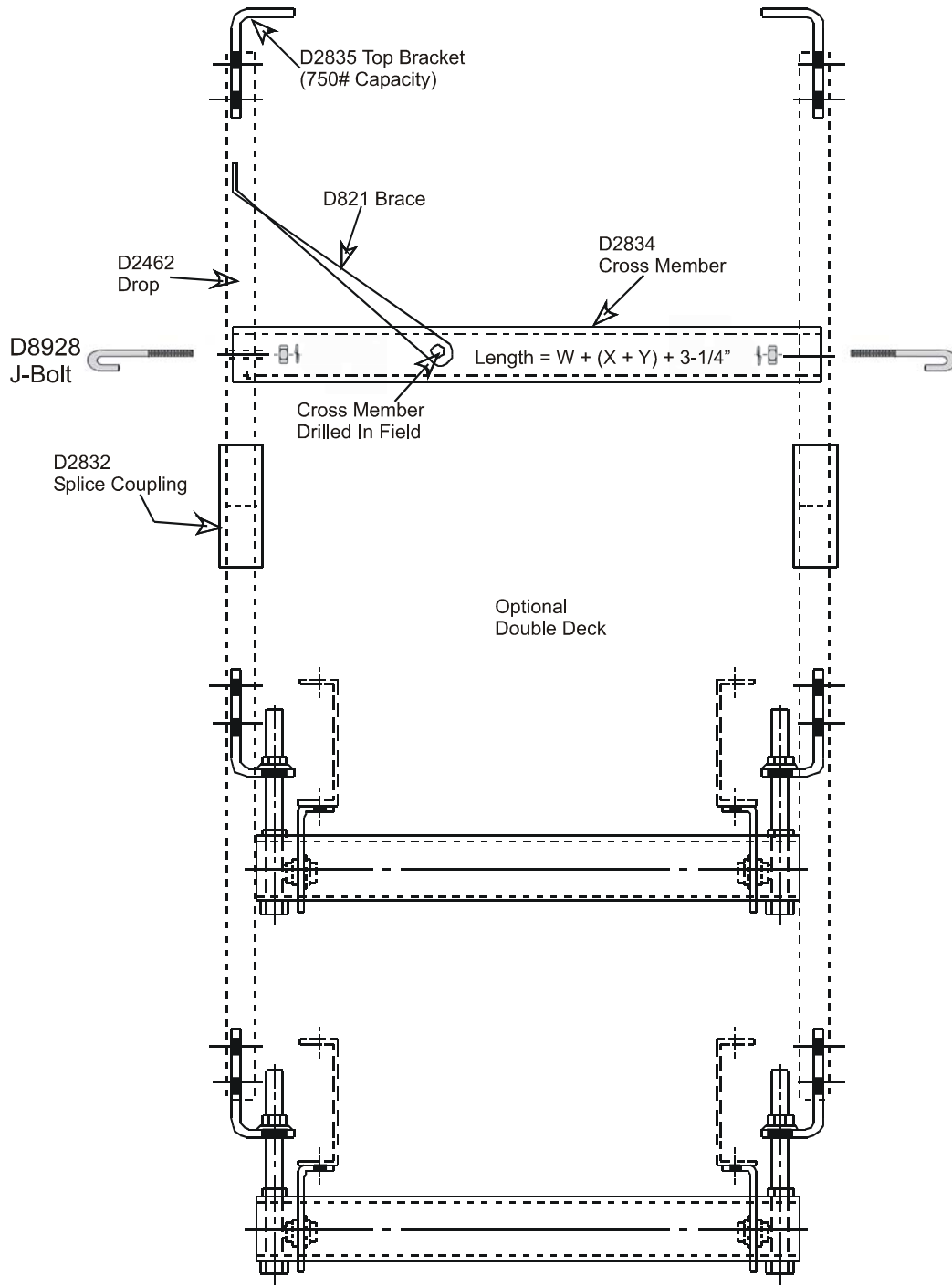
C1275 - Hanger Support - 1500 Pound Capacity

For use with Single Strand Chain Driven Live Roller Conveyor

HOW TO ORDER

Quantity	Code No.	W	"X" Dim.	"Y" Dim.	Height	Options
6	C1275	21"	2-1/2"	2-1/2"	XL	SP





HB828FKI068a

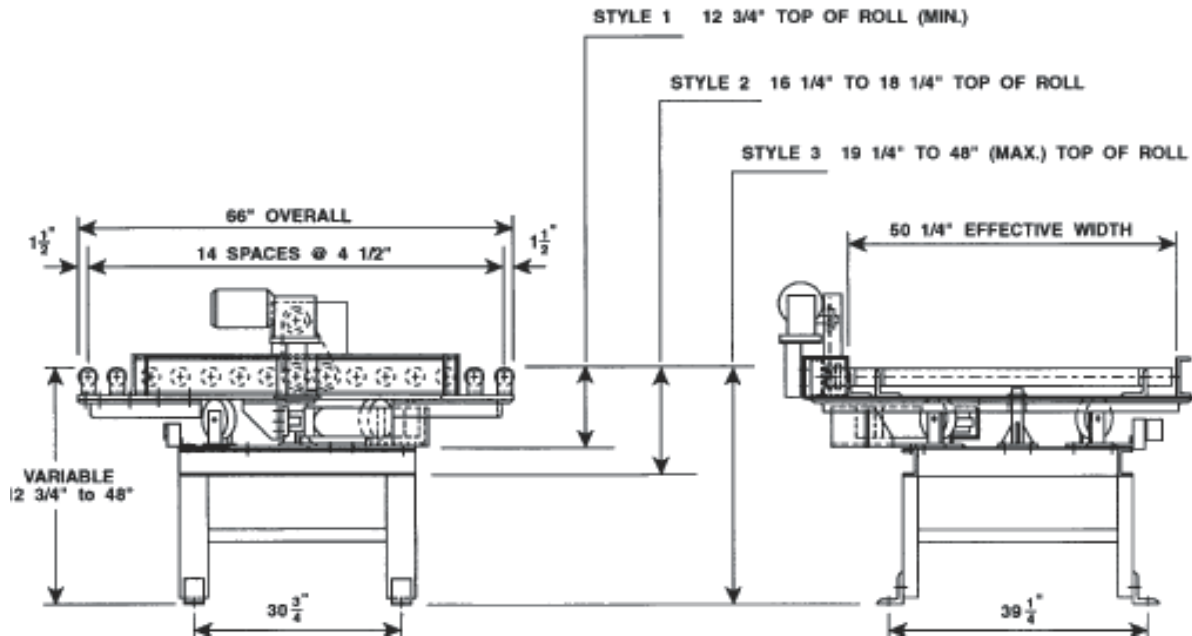
WIDTHS	Standard - 12" through 39" Between Frames in 3" increments.
VERTICAL MEMBERS	Standard - 2-1/2" x 1" x .109" (12 ga.) formed channel. Standard length is 10'-0". Extra long length is 20'-0" (add "XL" in How To Order). Maximum clearance between vertical members = $W + X + Y + 1-1/2" = 63"$.
HORIZONTAL MEMBER	Standard - 2.50" x .120" wall tubing.
ADJUSTING BOLT	Standard - 5/8" dia. threaded rod, 2-3/4" adjustment.
SPECIAL NOTE	<p>This support may be used for single or multiple decks. Maximum load capacity per deck is 1500# and maximum load capacity per support is 3000#. Attachments to overhead structures to be supplied by purchaser, and must be sufficient to develop the full capacity of the support.</p> <p>The following are "optional" and must be "ordered separately":</p> <ul style="list-style-type: none"> D2835 - Top Bracket (750# capacity each) D2834 - Cross member D2832 - Splice Coupling D921 - Brace <p>To order additional hardware for second deck, order as C1275-W-X-Y-omit D2452 Drops.</p>
NOTES	<ol style="list-style-type: none"> 1. Vertical members shipped in nominal 10'-0" (std) or 20'-0" (XL) lengths. Cut to proper length in the field. 2. All components shipped loose.

Accessories

Model 3500TT - 90° Powered Turntable - 3000 Pound Capacity

HOW TO ORDER:

Quantity	Code No.	Elevation Top of Roller	Speed	Voltage	Options
1	3500TT	24"	30	460	---



HB828FKI069a

Designed to match RRCD250.

2.50" x 120" rollers on 4-1/2" centers.

Effective conveying width of 50-1/4" (54" W), for 48" pallet.

Top of roller elevation of 12-3/4", 16-1/4" to 18-1/4" and 19-1/4" to 48" maximum.

1/2 HP, 230/460 volt, 3 phase, brakemotor for 30, 40, 50 or 60 FPM.

Air cylinder to provide 90° rotation (60 PSIG minimum required).

40" swing radius.

Maximum three cycles per minute.

Four 6" dia. caster wheels supporting 1/4" steel top plate.

2-position, 4-way air valve and filter-regulator-lubricator are required, but not included.

Mountings for limit switches to sense home and rotated positions are included, but limit switches are optional.

Factory wiring of motor, solenoid valve and limit switches to junction box is available as an option.

Factory piping of cylinder and valve to a filter-regulator-lubricator is available as an option.

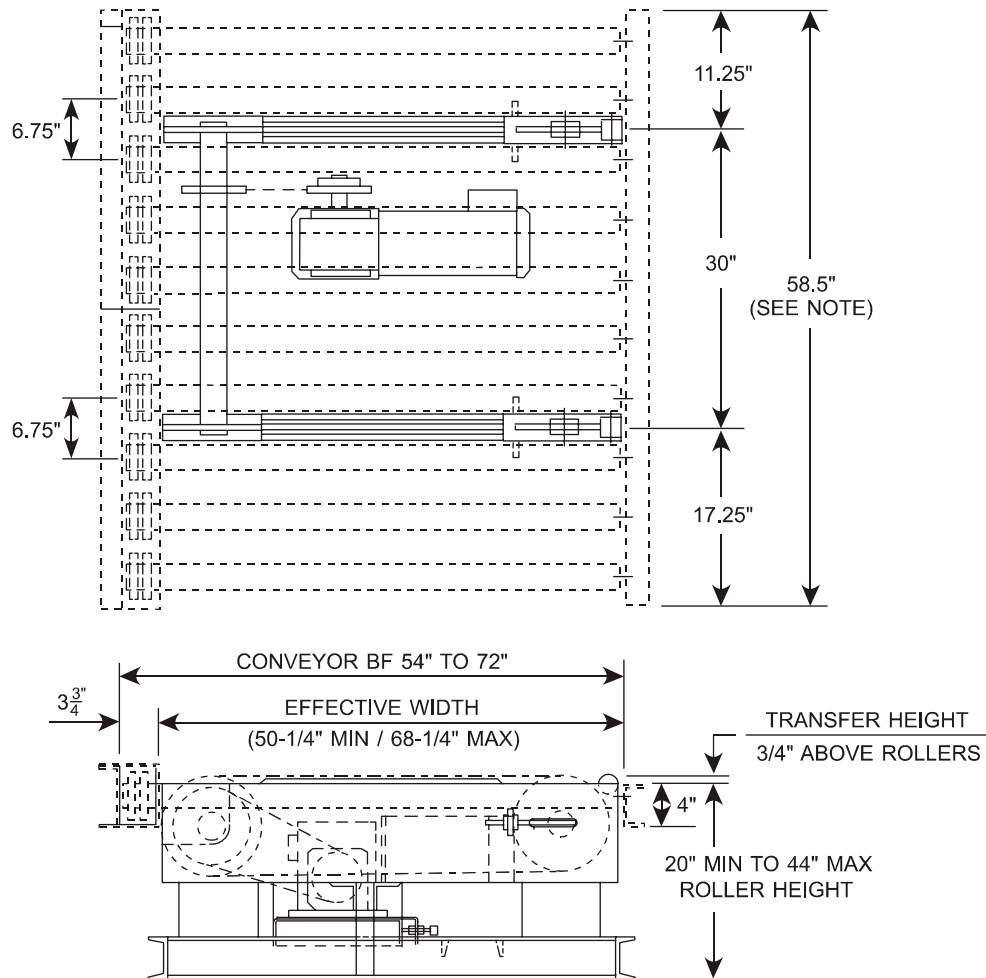
Model 3000XF - Two Strand Chain Transfer - 3000 Pounds Capacity

For use with RRCD250 and RRCD256 CDLR

HOW TO ORDER:

Quantity	Code No.	W	Transfer Speed	Voltage	Elevation T.O.R.	Options
1	3000XF	54"	40	230	36"	---

BETWEEN FRAME STYLE



HB828FKI070a

Note: This uNit is designed for use with a modified tread section 58.50" long, with spacing between rollers to accommodate the cross chain tracks on 30" centers.

If matching 2.50" (C20010) use section C20102

If matching 2.50" (C20011) use section C20103

If matching 2.56" (C20020) use section C20105

If matching 2.56" (C20021) use section C20106

For ordering tread sections, see Components section.

For use with modified RRCD250 or RCD256 with Between Frame dimensions of 54" to 72" in 3" increments with rollers high on one side.

See Note on previous page. Conveyor section not included.

Two strands of #2060 extended pitch precision roller chain on 30" centers riding on extruded Hyfax chain guides.

Transfer speeds of 30, 40, 50 and 60 FPM available.

The chain transfer is powered by a 1/2 HP, 230/460 volt, 3-phase, totally enclosed gearmotor.

Support structure included for transfer device.

Conveyor section would be drive by adjoining conveyor.

Air pressure required is 80 PSIG at device.

2-position, 3-way valve is needed but not included.

Filter-regulator-lubricator is needed but not included.

Mountings for limit switches to sense up and down positions are included, but limit switch are not included.

Factory wiring of motor, solenoid valve and limit switches to junction box is available as an option.

Factory piping of lifting device and valve to a filter-regulator-lubricator is available as an option.

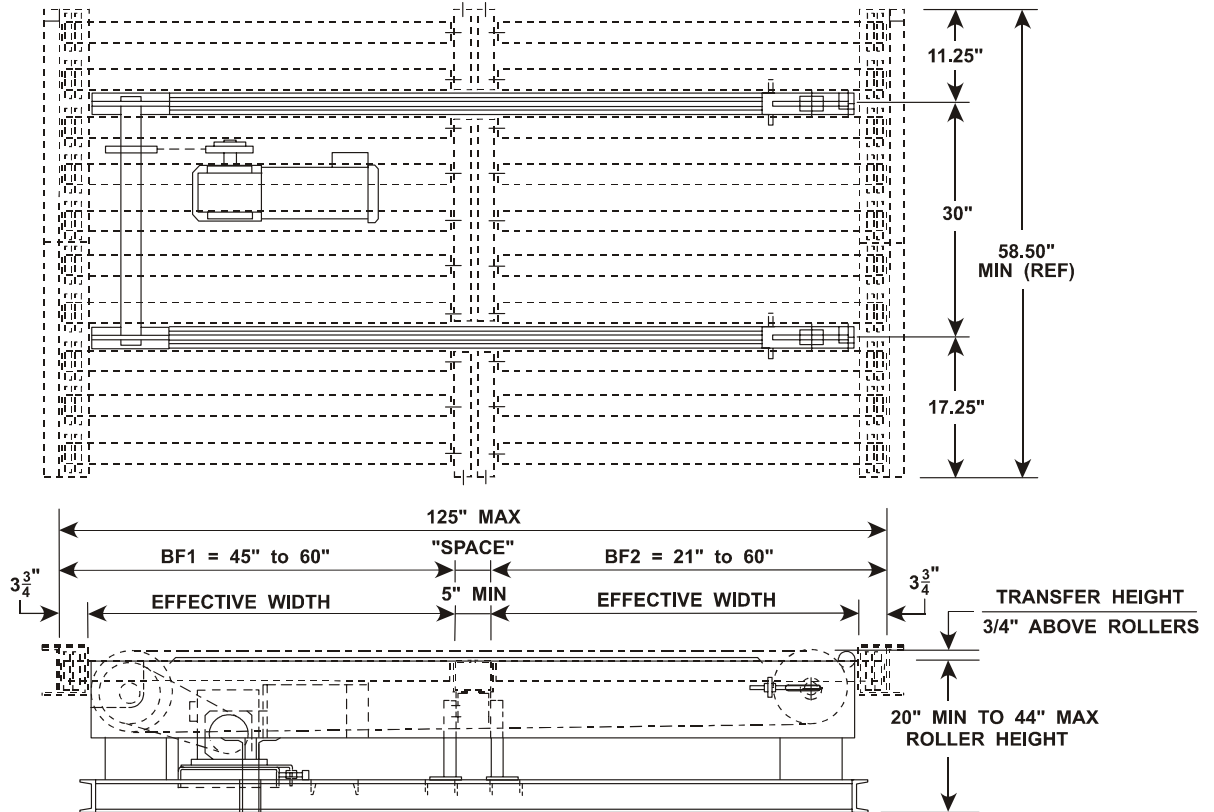
Model 3100XF - Two Strand Chain Transfer - 3000 Pounds Capacity

For use with RRCD250 and RRCD256 CDLR

HOW TO ORDER:

Quantity	Code No.	W-1	"Space"	W-2	Transfer Speed	Motor Voltage	Elevation T.O.R.	Options
1	3100XF	54"	6"	54"	40	230	27"	---

THROUGH FRAME STYLE



HB828FKI071a

Contact factory for application assistance.

For use with modified RRCD250 or RRCD256 with Between frame dimensions of 45" to 60" in 3" increments with rollers high on one side (frame must be modified for chains).

Conveyor section not included.

Two strains of #2060 extended pitch precision roller chain on 30" centers riding on extruded Hyfax chain guides.

Transfer speeds of 30, 40, 50 and 60 FPM available.

The chain transfer is powered by a 1/2 HP, 230/460 volt, 3 phase, totally enclosed gearmotor.

Support structure included for transfer device.

Conveyor section would be driven by adjoining conveyor.

Air pressure required is 80 PSIG at device.

2-position, 3-way valve is needed but not included.

Filter-regulator-lubricator is needed but not included.

Mountings for limit switches to sense up and down positions are included, but limit switches are not included.

Factory wiring of motor, solenoid valve and limit switches to junction box is available as a option.

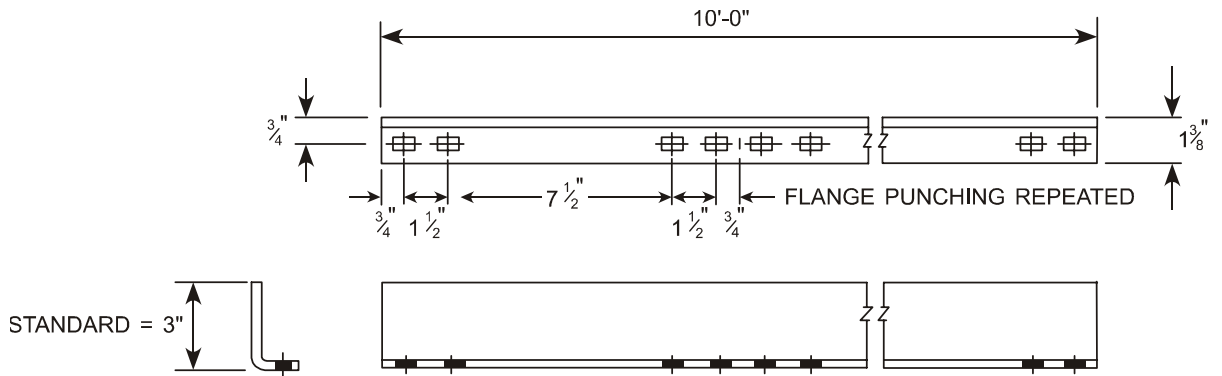
Factory piping of lifting device and valve to a filter-regulator-lubricator is available as an option.

D1443 - Angle Guard Rail

For use with Single Strand Chain Driven Live Roller Conveyor

HOW TO ORDER:

Quantity	Code no.	Height	Length
1	D1443	3"	120"



3" AND 6" HIGH - 14 GA. GALVANIZED FORMED STEEL
 9" AND 12" HIGH - 11 GA. GALVANIZED FORMED STEEL

HB828FKI072a

Standard length 10'-0". Odd length cut in field.

Galvanized finish standard.

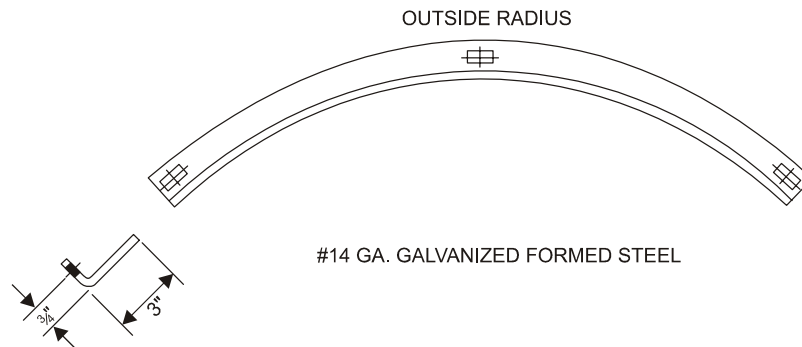
D1443 guard includes 1 rail only. None required on opposite side due to chain box.

D1444 - Curved Angle Guard Rail

For use with C557 Curves

HOW TO ORDER:

Quantity	Code no.	W	Angle
1	C1444	29"	90°



HB828FKI073a

Includes outside guard only. None required on inside rail due to chain box.

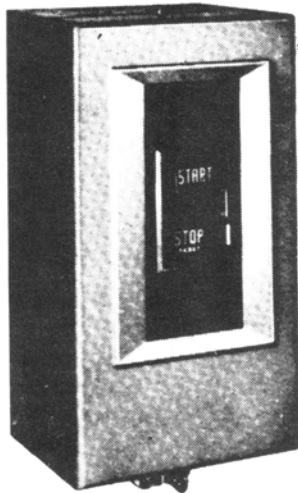
Will match with D1443 angle guards.

Galvanized finish standard.

For 90° curves, 35" and 41" Between Frames, guard rails will be made in two 45° segments.

Guards match radii of curves with standard 17", 23", 29", 35" and 41" Between Frames dimension only.

Electrical Components & Control Equipment



NON-REVERSING TYPE
MANUAL STARTERS
NEMA 1

CE-4 Single Phase 2#
CE-5 Three Phase 5#

Wt.

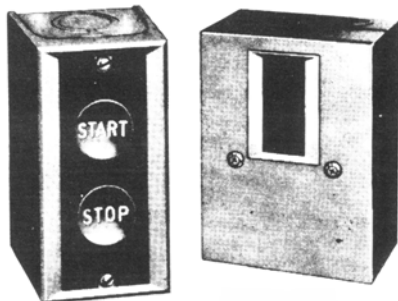


PHOTOCELL AND
REFLECTOR
(Less Mounting Brackets)

Without Time Delay Relay 2#
With Time Delay Relay 2#

Wt.

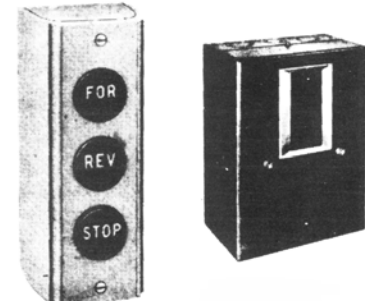
NON-REVERSING TYPE
MAGNET STARTERS
NEMA 1



CE-6 Single Phase
CE-7 Three Phase Size 0
For Fractional or Integral Use 10#
Two pushbutton stations included
with each starter

Wt.
10#

REVERSING TYPE
MAGNET STARTERS
NEMA 1



CE-8 Single Phase
CE-9 Three Phase Size 0
For Fractional or Integral Use 28#
Two pushbutton stations included
with each starter

Wt.
28#

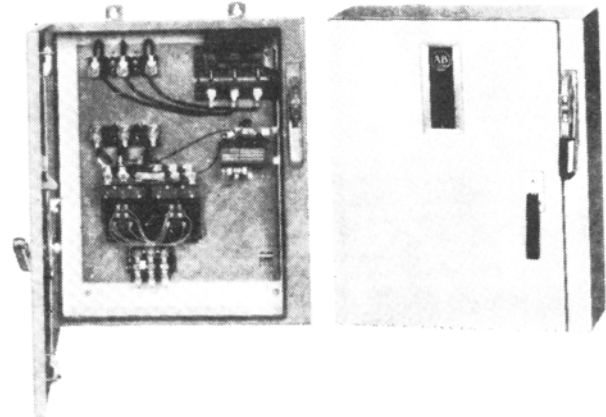
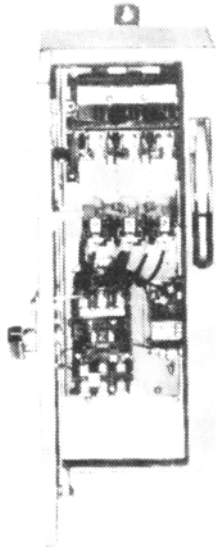
Combination Starters

As the name implies, combination starters put together in one enclosure an externally operable disconnect switch, fuses and either a reversing or non-reversing magnetic starter. This form of control eliminates the field wiring required by the separate fused disconnect used with the standard version of magnetic starters.

The combination starters are listed in both (NEMA 1) standard duty enclosures (NEMA 12) heavy duty, oil tight/dust tight industrial enclosures.

Size 1 starters can handle a maximum of 7 1/2 HP at 200/230 volts and 10 HP at 460/575 volts. To supply the proper starter, **both the operating voltage and horsepower of the motor must be furnished.**

SIZE 1 COMBINATION STARTERS



NON-REVERSING Wt.
CE-12 NEMA 1 35#
CE12A NEMA 12 36#

REVERSING Wt.
CE-13 NEM 1 35#
CE-13A NEMA 12 36#

Standard voltages, which can be furnished, are 200, 230, 460 and 575. Above units are available with separate 120 volt operating coil, add suffix "S".

Transformers for other starter coils are available by adding suffix "T".

Above starters include two pushbutton stations.

Components For Driving and Controlling the Powered Conveyors

This section deals with the components that drive and control powered conveyors. It presents a review of the various components used and information required to make the proper selection. These various control mechanisms can be used to control single units or be incorporated into systems.

Motors

There are three basic types of motor enclosures:

1. Open

The motor windings can be seen through the vents at the end of the motor.

2. Totally Enclosed

The motors are completely encased in a metal enclosure.

3. Explosion Proof

The enclosure of the motor will withstand an explosion from within itself and will not allow sparks or hot gas to escape into the surrounding atmosphere.

Explosion proof motors are further rated by class and group by the National Electric Code according to the environment in which they are designed to operate.

Class I - Hazardous Vapor
Group C - Ethers, Alcohols, etc.
Group D - Petroleum Base

Class II - Hazardous Dust
Group E - Metal
Group F - Carbons
Group G - Grains

There are three designations required when specifying the power source an A.C. motor is to operate from:

1. Phase - Three or One

2. Frequency - Hertz

3. Voltage - Volts

Common single phase voltages are 115 and 230. Common three phase voltages are 208, 230, 460 and 575. Motors for 230 or 460 volt applications normally are supplied as dual voltage, (i.e. 230/460). When specifying motors, the single voltage which will be used to operate the motor must be stated if the proper controls for starting and stopping the motor are to be selected.

Motors are commonly mounted by two principle means, foot mounted or C-face. Foot mounted is nothing more than a set of mounting feet which are welded or otherwise attached to the bottom of the motor. C-face mounting consists of a cast ring or collar on the end of the motor with four mounting holes which allows the motor to be attached to a reducer, machine, etc.

Gear Reducer

A reducer is a device which converts a high RPM with low torque (usually supplied by a motor at the reducer's input shaft) to a lower RPM with higher torque on the reducer's output shaft, which is connected to the conveyor drive.

Reducers are generally selected based on the amount of the horsepower to be transmitted and the amount of reduction in speed that is required. Terminology used in speed reduction is "ratio". Ratio is the rate of the output speed as compared to the input speed. Typical ratios are 10:1, 40:1, etc. If an 1800 RPM motor is coupled to a 40:1 ratio reducer, the resultant output speed would be 1800 divided by 40 which equals 45 RPM. Manufacturer's rating tables are used to select a reducer with the proper horsepower rating.

Gear reducers are generally grouped into two categories, parallel shaft and right angle shaft. The determination is made by the position of the output shaft relative to the input shaft. If the output shaft is in position parallel to the input shaft, then the gear reducer is termed a parallel reducer. If the output shaft is in a position forming a right angle to the input shaft, the reducer is termed a right angle reducer.

The most common mounting arrangement for reducers is foot mounted. This consists of a set of feet, with holes in them, that are attached to the reducer. With this arrangement, the reducer can be bolted to any flat surface. Since the reducer requires oil to lubricate the gears, it is necessary to know whether it is intended to be mounted with the feet up and the reducer below, such as a ceiling hung mounting position or with the feet down and the reducer above them, which would be termed a floor mounted position. Another important consideration in gear reducers is how the motor will be attached to the reducer. One simple means is to foot mount the reducer and foot mount the motor at relative positions so that the output shaft of the motor is aligned with the input shaft of the reducer. A suitable coupling can then be used to connect the two. An alternative approach is to use a C-face motor and C-face reducer. Remember that a C-face motor has a ring or collar on the end of the motor with four mounting holes. Reducers can be purchased that have a corresponding collar around the input shaft of the reducer. A plastic collar couples the output shaft of the motor to the input shaft of the reducer and when the motor and reducer are bolted together, it encloses the "coupling" eliminating the need for a guard.

Because of the popularity of C-face motor reducer combinations when they were originally introduced, manufacturers carried that concept forward with the introduction of the integral gearmotor. An integral gearmotor is a motor and reducer or "gear box", cast into one housing. Basically, the motor is made "open ended" on the end next to the gear box and the gear box has a flat plate and collar to accept the motor. This eliminates the need for C-face rings on the motor and reducer and therefore is more economical. The disadvantages of the integral gearmotor is that if either the motor or reducer fails, both have to be replaced since it is an integral unit. In the case of a C-face motor and C-face reducer, if the motor fails, only the motor has to be replaced. If the reducer fails, only the reducer has to be replaced.

Brakes

The most common types of brakes used with motors are spring set/electrically released type. This is a disc type brake, that when power to the motor is eliminated, a spring sets the brake to stop the rotation of the motor. When power is applied to the motor, the brake is released by an electrical solenoid. Brakes are sized in terms of the torque they produce. Normally, for a holding brake such as is used on a conveyor, a brake should be sized 3 ft. lbs. per horsepower or as an example, a 3 ft. lb. brake is used for a 1 horsepower motor and a 6 ft. lb. brake for a 2 horsepower motor.

Clutch Brake

A clutch-brake is a device that is mounted between the motor and the reducer. With a clutch-brake, the motor runs continuously. When the conveyor is to start, the clutch is energized and the brake is released. When it is desirable to stop the conveyor, the clutch is released and the brake is applied. Clutch-brakes require a special power supply and controlling device. This controller allows the force between the clutch discs and brake discs to be varied. This provides a means of adjusting the starting and stopping motions of the conveyor from “soft” to “violent”.

Three phase motors with brakes generally can be started and stopped up to six times per minute. For applications requiring more starts and stops per minute, a clutch brake should be used.

Motor Starters

Manual Motor Starters

Manual motor starters are devices which, when a button is pushed or a toggle type switch is thrown, operate a set of electrical contacts which supply power to a motor. The button or toggle switch is an integral part of the manual starter. Manual motor starters can be used when a conveyor is being controlled from one point only and can not be connected with any other remotely located control circuit devices, such as a second push button, a limit switch, or photoelectric relay. In order to select the proper manual motor starter, the following must be known:

1. Reversing or Non-Reversing
2. Single Phase or 3 Phase
3. Frequency of Power Supply (60 Hertz)
4. Voltage at which the motor is to be run (this must be one voltage, not dual voltage such as 230/460).
5. Horsepower of motor controlled by the starter.

Magnetic Motor Starters

Magnetic motor starters are used where it is desirable to control a conveyor from more than one location. Magnetic motor starters have basically two circuits associated with them. One is a control circuit and the other is a power circuit. The power circuit turns electrical line power to the motor off or on. The line power provides the energy for the motor to actually do work while the control circuit tells it when. The control circuit is controlled by push button, limit switches, photoelectric relays and switching devices. Technically, these switching devices are used to energize the magnetic coil of the starter which in turn operates a set of multiple contacts. These contacts are used to complete the power circuit to the motor. The control circuit voltage is usually lower than the power circuit voltage.

In order to select the proper magnetic starter, the following must be known:

1. Reversing or Non-Reversing
2. Phase, frequency and voltage the motor is to run on (power voltage).

3. Phase, frequency and voltage the push button is to be run on (control voltage)
4. Is a transformer required to change motor voltage to control voltage? (This would be required if, for instance, there was only one power source available, such as 230 volts, which is acceptable for the line power for the motor but the push buttons are desired to operate at 115 volts.)
5. Horsepower of the motor to be controlled.

Combination Magnetic Motor Starters and Control Panels

The National Electrical Code requires both short circuit protection and running overload protection for each motor in a conveyor system. In addition, a lockable disconnecting device must be provided with sight and (also) within 50 feet of each motor.

The running overload protection for a motor is provided by the “heaters” in a starter. Heaters are an integral part of all motor starters. This leaves the problem of providing short circuit protection and a disconnecting means to consider.

Providing a combination motor starter for each motor meets both of these requirements. The fuses or circuit breakers in a combination starter provide the short circuit protection and the disconnect or circuit breaker provides the disconnecting means. The circuit breakers provide the same function as a fused-disconnect. The only other requirement of this alternative to meeting the criteria of the National Electrical Code is physically locating the combination starters within 50 feet and in sight of the motors they control. Typically these starters are individually located directly beside the motor they control and are mounted on the side of the conveyor drive.

A second alternative to meeting this requirement of the National Electrical Code is to provide “across the line” magnetic starters and provide a fused-disconnect in a separate enclosure. Typically the fused-disconnects are provided by whoever is doing the field wiring. Although this is typical it is an often misunderstood point. If “across the line” starters are provided by the equipment supplier, it should be established early in the development of a project whether the equipment supplier is also providing fuse-disconnects or whether they will be provided by the field wiring supplier.

A third alternative to meeting the requirements of the National Electrical Code is providing a prewired control panel. The control panel houses “across the line” starters and fuses or circuit breakers for each motor in a common enclosure. This meets the short circuit protection requirement. The control panel includes a main disconnect switch which meets the disconnecting means requirement of the code as long as all of the motors are located within 50 feet and within sight of the control panel. If some of the motors are beyond a 50 foot radius of the panel or are not visible from the panel, then a non-fused disconnect must be provided for each motor. These disconnects are usually provided by the field wiring contractor but not always. Caution must be exercised between the parties involved in a project that everyone understands who is providing what.

In summary, there are three essential parts to motor control: the disconnecting means, the overload “heaters” contained in the magnetic starter, and the short circuit protection. These can be grouped in various combinations in multiple or common enclosures.

Electrical Enclosures

Standards for the manufacture of electrical control devices have been agreed on by the National Electrical Manufacturers Association or N.E.M.A. N.E.M.A. has established various classifications for enclosures or boxes enclosing push buttons, motor starters, photoelectric cells, etc. A numbering system is used to describe these enclosures, and the following are some of the more common that you will encounter.

1. N.E.M.A. Type 1 - Surface Mounting (General Purpose Sheet Metal)

Type 1 enclosures are intended for indoor use, primarily to provide a degree of protection against contact with enclosed equipment in locations where usual service conditions do not exist. The enclosure is sheet metal and treated to resist corrosion.

2. N.E.M.A. Type 4 (Water Tight)

Type 4 enclosures are intended for in-door or external use primarily to provide a degree of protection against wind blown dust and rain, splashing water, and hose directed water. They are designed to meet hosed down, dust, external icing and rust resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing. Enclosures are made of heavy gauge stainless steel, cast aluminum or heavy gauge sheet metal, depending upon the type of unit. The cover has a synthetic rubber gasket.

3. N.E.M.A. Type 7 and 9 (Explosion Proof)

These enclosures are intended for indoor use. N.E.M.A. type 7 is normally used in atmospheres that contain hazardous gas and will be used in areas that correspond with Class 1, Group C and D motors. N.E.M.A. type 9 would normally be used in atmospheres that contain hazardous dust and would be used in conjunction with motors that are classified as Class II, Group E, F, and G.

4. N.E.M.A. 12 (Industrial Dust-Tight)

These enclosures are intended for use indoors to protect the enclosed equipment against fibers, flying lint, dust and dirt and light splashing, seepage, dripping and external condensation of non-corrosive liquids.

Switching Devices

Push Buttons

Push buttons are about the simplest switching device known. The operator simply pushes a button which causes an electrical contact to close, thus providing a signal for something else to happen.

Limit Switches

Limit switches are switching devices which are actuated by a machine motion striking a lever on the switch. The lever causes an electrical contact to operate which causes some other action to happen.

Selector Switches

Selector switches are similar to a push button except the operator rotates the switch as opposed to pushing down on the switch to cause an electrical contact to operate.

Photoelectric Relays

Photoelectric relays are a "no touch" switching device. This is a device which operates an electrical contact when a beam of light is broken.

Solenoid Valves

A solenoid valve is an air or hydraulic valve combined with a solenoid. The solenoid is a magnetic coil which is turned on by a switching device or logic device. When the coil is turned on, it causes an armature to move and push a plunger in one direction or the other. The plunger and the solenoid shifts a spool in the valve to cause a different flow path for the air or hydraulic fluid.

Air Controls

Air control used on conveyors normally consist of valves and filter-regulators which may be used to raise and lower stops and transveyors or perhaps to actuate some other divert mechanism.

A filter-regulator-lubricator is a combination of three devices. The filter cleans the dirt and grit out of the air, the regulator regulates the pressure in the air line and keeps it below a certain maximum pressure. The lubricator squirts oil into the air passing through it. This lubrication is used to lubricate the valve and cylinder which is normally connected to the filter-regulator-lubricator.