

**Section 5 – Chain Driven Live Roller**

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**Chain Driven Live Roller Application:**

Series 470 and 480 roller to roller chain driven live roller conveyor is designed with two sprockets welded to one end of each roller. Individual loops of chain connect one roller to the next roller, transmitting power to the total unit. Although chain drives are mechanically efficient, this type of conveyor multiplies the efficiency loss with each additional roller. Loads up to 1000 pounds per foot can be handled on 470/480 chain driven live roller equipment. Loads up to 2000 pounds per foot can be handled on 490 chain driven live roller equipment.

If a drive is placed in the center of a series 470/480 conveyor, 40 rollers can be driven in each direction for a total of 80 rollers per drive. If a drive is placed in the center of a series 490 conveyor, 23 rollers can be driven in each direction for a total of 46 rollers per drive.

This conveyor design is good for transmitting torque and can handle heavier loads with relative ease. It is also good when frequent starting, stopping or reversing is required, although operating the conveyor in this severe manner will reduce the life of the equipment. A Soft Start or Variable Frequency Drive is recommended for frequent cycling.

Chain Driven Live Roller conveyor is often used to transport heavier loads at controlled speeds due to the positive drive feature.

Advantages of using Chain Driven Live Roller:

- 1) Space directly below the roller is clear for drainage or visibility.
- 2) Resistance to hot or cold temperatures that would damage other types of conveyors.
- 3) Resistance to contamination by oil, grease, dirt, ice, chemicals etc.
- 4) Strong positive force to drive heavy loads into a definite orientation or location.
- 5) Chain Driven rollers can take abuse of pallet bottoms when other types of conveyor fail.
- 6) Weighing, sorting and accumulating can be incorporated into the system.
- 7) CDLR can be placed on lifts to accomplish changes in elevation.

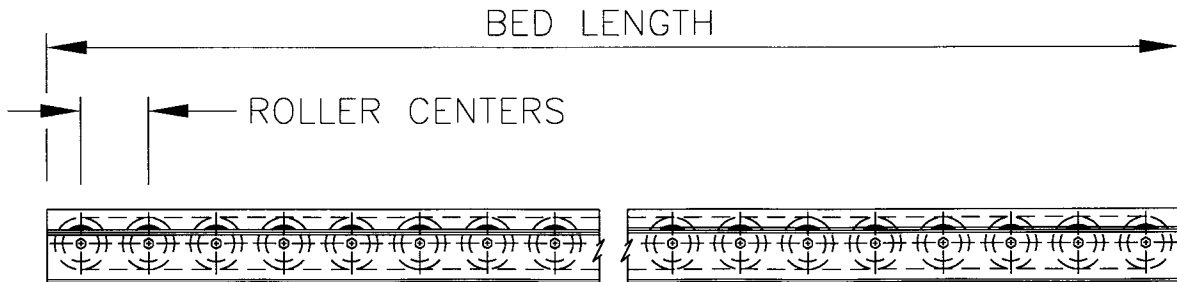
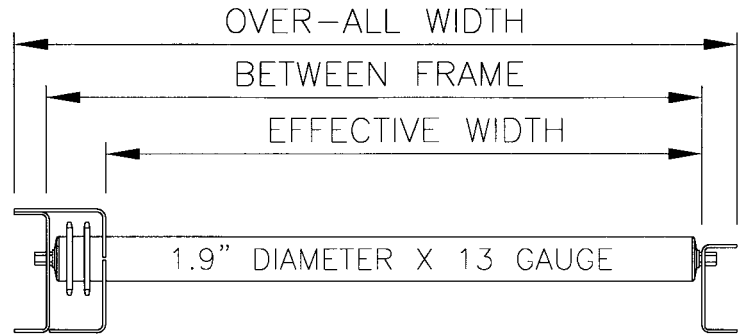
Complete Unit Component Selection

- 1) Determine the CDLR series required based on product size and weight.
- 2) Determine Effective Width (Conveying Surface) required based on widest product that will be conveyed on the unit
- 3) Determine the Overall Length of the unit.
- 4) Calculate the Horsepower based on load with charts provided.
- 5) Determine Roller Centers. (A minimum of three rollers under product at all times)
- 6) Select the desired Bed Sections.
- 7) Select the CDLR Drive Assembly.
- 8) Select Supports and Accessories to suit your application.



470 CDLR Specifications:

Effective Width	Between Frame	Overall Width
12"	14 ½"	17"
15"	17 ½"	20"
18"	20 ½"	23"
21"	23 ½"	26"
24"	26 ½"	29"
27"	29 ½"	32"
30"	32 ½"	35"
33"	35 ½"	38"
36"	38 ½"	41"
42"	44 ½"	47"
45"	47 ½"	50"



470 Series Specifications

Rollers: 1.9" dia. x 13 gage electric welded tube with 7/16" hex bore flanged ball bearings with Hardened steel raceways, cones and balls.

Load rating per roller is 260 lbs.

Standard Roller Centers are 4", 6" and 6/6.

6/6 Rollers are on 3" Centers with every other roller driven.

Sprockets: Two #40A18 tooth sprockets are welded to the roller at the drive end.

Axes: Roller axles are 7/16" hex stock spring loaded for easy removal and assembly.

The roller mounting location is 5/16" above the top flange of the idler side frame.

Frame: Idler side is 4 ¼" high channel with 1 ¼" flanges x 10 gage formed steel.

Drive side is 5 ¾" high channel with 1 ¼" flanges x 10 gage formed steel.

10 gage steel top and bottom scalloped guard

Crossmembers: 3" x 1 ½" x 10 gage formed steel channel.

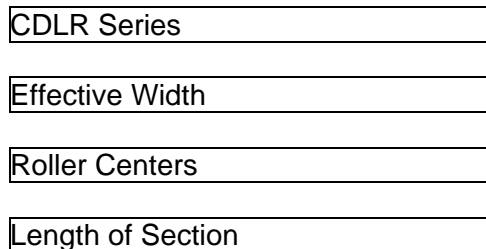
Frame Capacity: 1,500 lbs with supports on 10'-0" centers,

3,000 lbs with supports on 5'-0" centers.

Finish: Standard finish for painted components is Metzgar Medium Blue or Vista Green

Straight Section Model Number:

470 - 12 - 6 - 10





470 CDLR Drive Specifications:

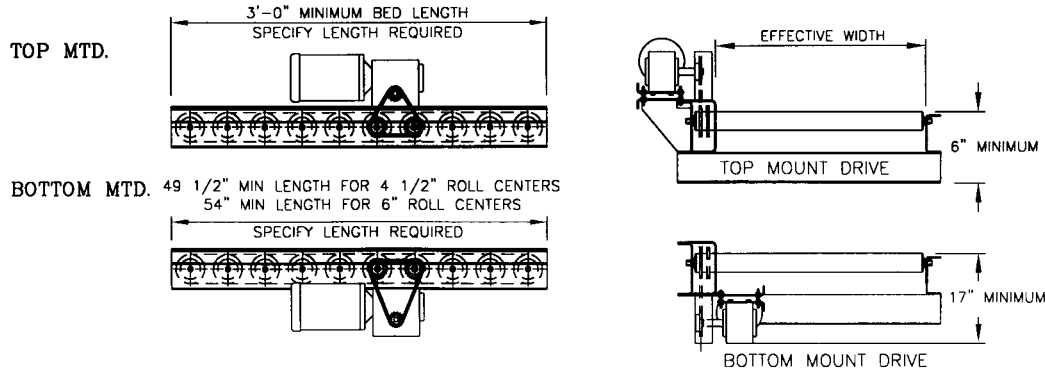
Table 1 – 470 Series 4” Centers Maximum Load in weight per foot.

Horsepower	Length of Unit					
	10'	20'	30'	40'	50'	60'
1/2 Hp	254	118	73	50	36	27
3/4 Hp	390	186	118	84	64	50
1 Hp	526	254	163	118	91	73

Table 2 – 470 Series 6” Centers Maximum Load in weight per foot.

Horsepower	Length of Unit					
	10'	20'	30'	40'	50'	60'
1/2 Hp	260	124	79	56	42	33
3/4 Hp	396	220	124	90	70	56
1 Hp	532	260	169	124	97	79

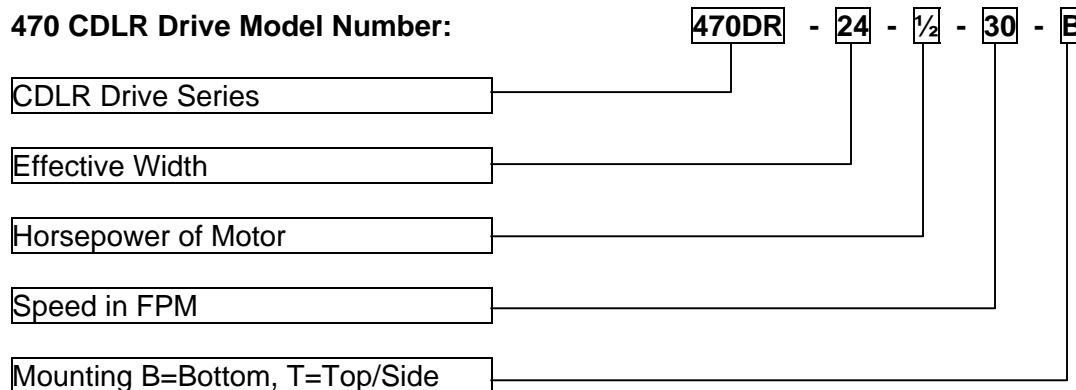
**Tables are based on speeds up to 40 Feet per Minute.
Heavier loads require supports on 5' centers.**



470 CDLR Drive Specifications:

Motor: Nema "C" face heavy-duty industrial type. Three phase is standard.
Single phase is available as an option.
Reducer: Heavy-duty right angle gear head reducer (worm gear type).
Drive Sprocket: Sized for speed with RC-40 chain.
Speed: Standard Speeds are 20, 30, and 40 Feet Per Minute.

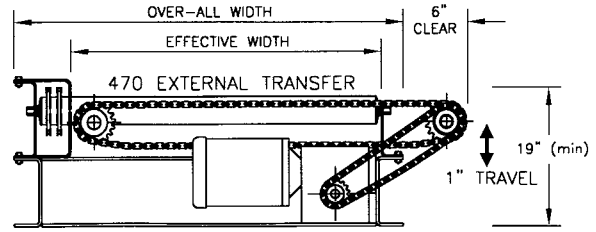
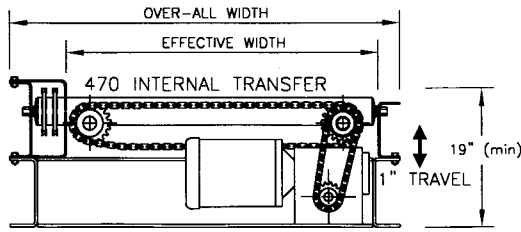
470 CDLR Drive Model Number:



**Order Separately: Conveyor Bed Section, Guard Rail, Supports and Controls.
Options include Brake Motors, Clutch/Brake Modules and Single Phase motors.**



470 CDLR Chain Transfer Specifications:



Motor: 1/2 HP Nema "C" face heavy-duty industrial type. Three phase is standard.

Single phase is available as an option.

Reducer: Heavy-duty right angle gear head reducer (worm gear type).

Frame: 1/4" track welded to 3" structural channel.

Each rail contains a take-up plate for chain tension adjustment.

Rails are joined together for a unitized lifting mechanism.

Lift: Air cylinders and cam mechanism.

Transfer Chain: Number 40 or Optional 2040.

Speed: Standard Speed is 30 Feet Per Minute (consult factory for optional speeds).

Capacity: Maximum Product Weight is 1,500 pounds.

A 470 Transfer includes a 470 conveyor Bed 5'-0" long as standard.

Standard Transfer Chain Centers:

8" center to center for 12" and 15" Effective Widths.

16" center to center for 21" and 27" Effective Widths.

24" center to center for 33" and 39" Effective Widths

32" center to center for 45" Effective Width.

470 CDLR Transfer Model Number:

470T - 24 - 1/2 - 30 - I

CDLR Drive Series Transfer

Effective Width

Horsepower of Motor

Speed in FPM

Mounting I=Internal, E=External

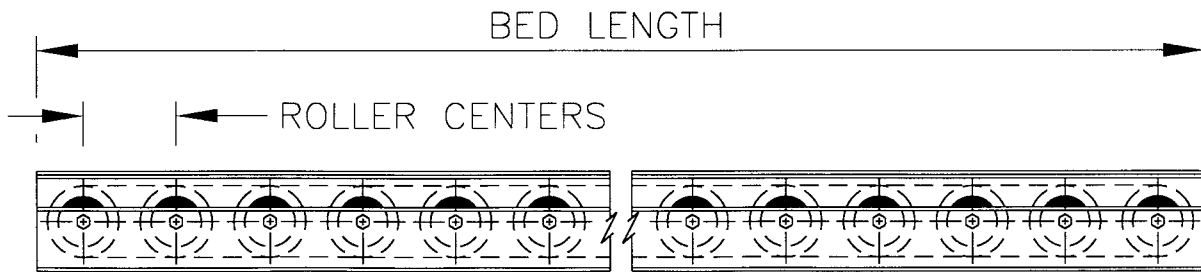
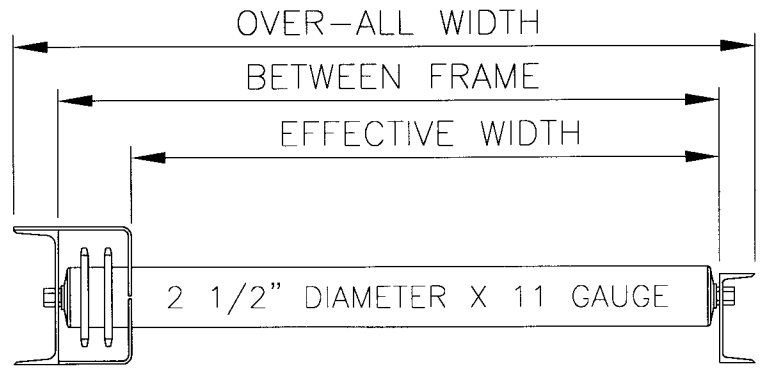
Included is a 120 vac 4-way single solenoid valve with poly-flow tubing and fittings.

Order Separately: Supports and Controls.



480 CDLR Specifications:

Effective Width	Between Frame	Overall Nominal Width
21"	24 1/2"	28"
27"	30 1/2"	34"
33"	36 1/2"	40"
39"	42 1/2"	46"
45"	48 1/2"	52"
51"	54 1/2"	58"
57"	60 1/2"	64"
63"	66 1/2"	70"



480 Series Specifications

Rollers: 2 1/2" dia. x 11 gage electric welded tube with 11/16" hex bore flanged ball bearings with Hardened steel raceways, cones and balls outer Teflon seal and inner shield.

Load rating per roller is 650 lbs.

Standard Roller Centers are 4 1/2", 6" and 6/6.

6/6 Rollers are on 3" Centers with every other roller driven.

Sprockets: Two #60A15 tooth sprockets are welded to the tube at the drive end.

Axles: Roller axles are 11/16" hex stock spring loaded for easy removal and assembly.

The roller mounting location is 5/16" above the top flange of the idler side frame.

Frame: Idler side is 4" high x 5.4# structural steel channel.

Drive side is 6" high x 8.2# structural steel channel.

10 gage steel top and bottom scalloped guard (optional 7ga).

Crossmembers: 3" x 4.1# structural channel.

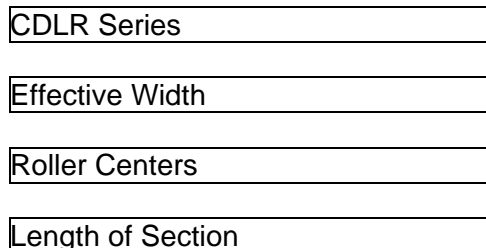
Frame capacity: 6,000 lbs with supports on 10'-0" centers

15,000 lbs with supports on 5'-0" centers.

Finish: Standard finish for painted components is Metzgar Medium Blue or Vista Green

Straight Section Model Number:

480 - 21 - 6 - 10





480 CDLR Drive Specifications:

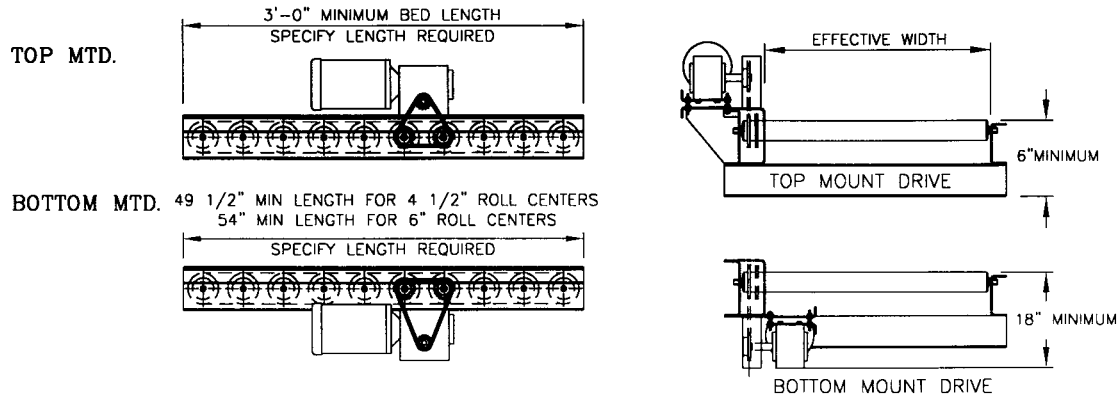
Table 1 – 480 Series 4 1/2” Centers Maximum Load in weight per foot.

Horsepower	Length of Unit					
	10'	20'	30'	40'	50'	60'
1/2 Hp	280	96	51	29	16	7
3/4 Hp	363	163	96	62	42	29
1 Hp	497	229	140	96	69	51

Table 2 – 480 Series 6” Centers Maximum Load in weight per foot.

Horsepower	Length of Unit					
	10'	20'	30'	40'	50'	60'
1/2 Hp	288	105	60	38	24	16
3/4 Hp	372	171	105	71	51	38
1 Hp	505	238	149	105	78	60

**Tables are based on speeds up to 40 Feet per Minute.
Heavier loads require supports on 5' centers.**



480 CDLR Drive Specifications:

Motor: Nema “C” face heavy-duty industrial type. Three phase is standard.

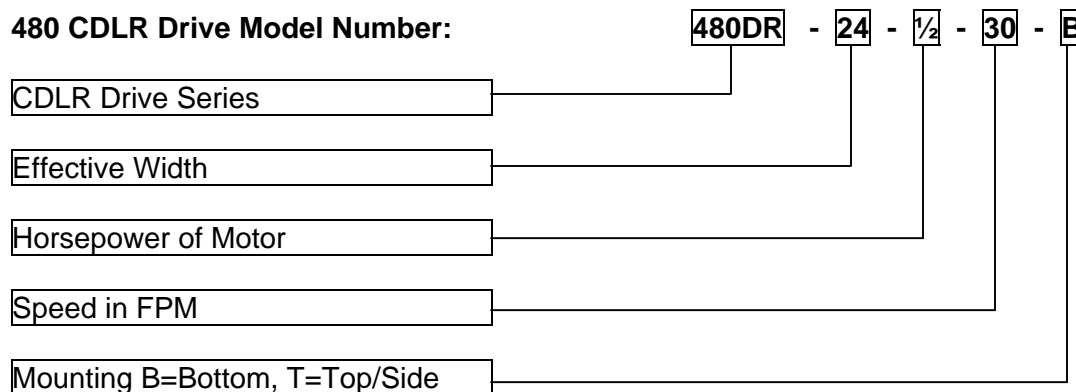
Single phase is available as an option.

Reducer: Heavy-duty right angle gear head reducer (worm gear type).

Drive Sprocket: Sized for speed with RC-60 chain.

Speed: Standard Speeds are 20, 30, and 40 Feet Per Minute.

480 CDLR Drive Model Number:

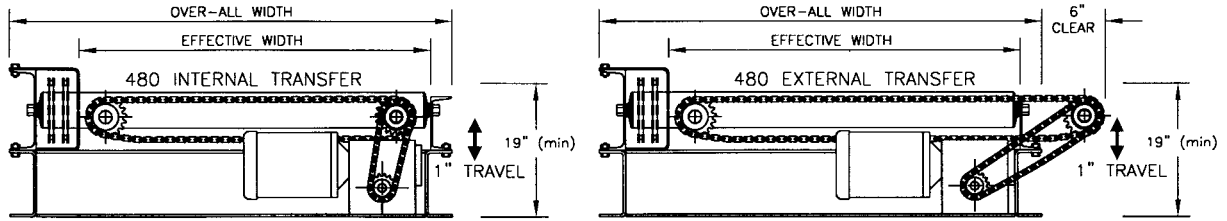


Order Separately: Conveyor Bed Section, Guard Rail, Supports and Controls.

Options include Brake Motors, Clutch/Brake Modules and Single Phase motors.



480 CDLR Chain Transfer Specifications:



Motor: ½ HP Nema “C” face heavy-duty industrial type. Three phase is standard.

Single phase is available as an option.

Reducer: Heavy-duty right angle gear head reducer (worm gear type).

Frame: 7 gage track welded to 4” structural channel.

Each rail contains a take-up plate for chain tension adjustment.

Rails are joined together for a unitized lifting mechanism.

Lift: Air cylinders and cam mechanism.

Transfer Chain: Number 60 or Optional 2060.

Speed: Standard Speed is 30 Feet Per Minute (consult factory for optional speeds).

Capacity: Maximum Product Weight is 3,000 pounds.

A 480 Transfer includes a 480 conveyor Bed 5'-0” long as standard.

Standard Transfer Chain Centers:

8” center to center for 12” and 15” Effective Widths.

16” center to center for 21” and 27” Effective Widths.

24” center to center for 33” and 39” Effective Widths

32” center to center for 45” Effective Width.

480 CDLR Transfer Model Number:

480T - 45 - 1/2 - 30 - I

CDLR Drive Series Transfer

Effective Width

Horsepower of Motor

Speed in FPM

Mounting I=Internal, E=External

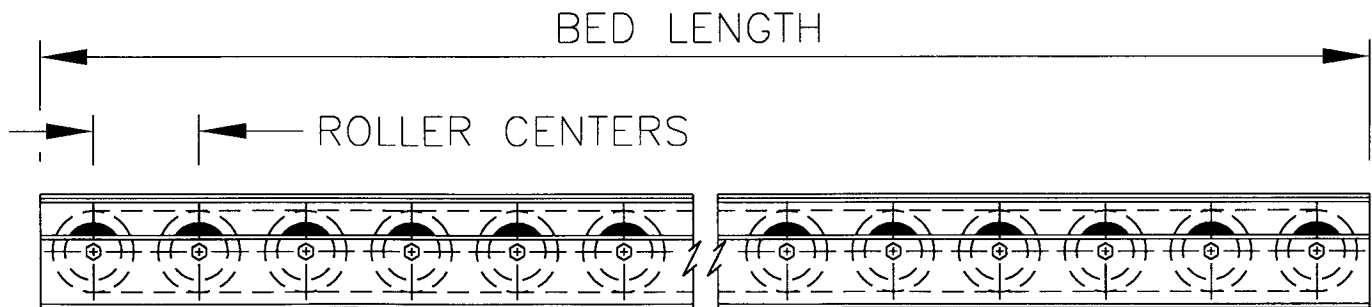
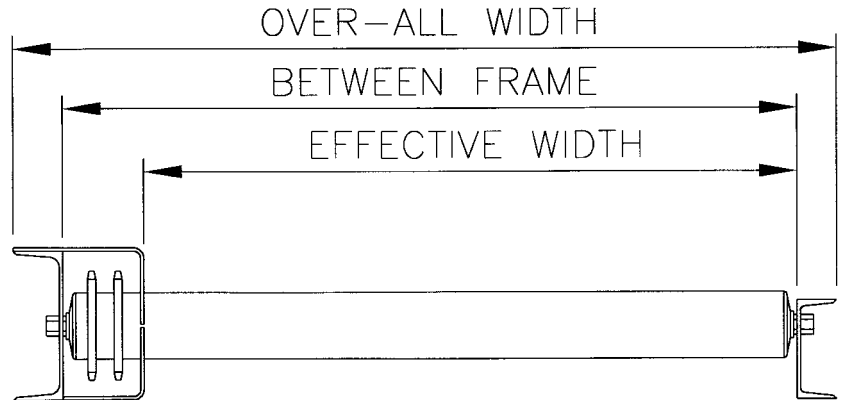
Included is a 120 vac 4-way single solenoid valve with poly-flow tubing and fittings.

Order Separately: Supports and Controls.



490 CDLR Specifications:

Effective Width	Between Frame	Overall Nominal Width
30"	35"	39 3/16"
40"	45"	49 3/16"
50"	55"	59 3/16"
60"	65"	69 3/16"
70"	75"	79 3/16"
80"	85"	89 3/16"



490 Series Specifications

Rollers: 3 1/2" dia. x 0.300 wall electric welded tube with 1-1/16" hex bore flanged ball bearings with Hardened steel raceways, cones and balls sealed.

Load rating per roller is 1040 lbs.

Standard Roller Center is 6 1/2".

Sprockets: Two #80A16 tooth sprockets are welded to the tube at the drive end.

Axes: Roller axles are 1-1/16" hex stock, cotter pin retained.

The roller mounting location is 3/8" above the top flange of the idler side frame.

Frame: Idler side is 6" high x 8.2# structural steel channel.

Drive side is 8" high x 11.5# structural steel channel.

7 gage steel top and bottom scalloped guard

Crossmembers: 4" x 5.4# structural channel.

Frame capacity: 8,000 lbs with supports on 10'-0" centers

20,000 lbs with supports on 5'-0" centers.

Finish: Standard finish for painted components is Metzgar Medium Blue or Vista Green

Straight Section Model Number:

490 - 30 - 6.5 - 117"

CDLR Series

Effective Width

Roller Centers

Length of Section

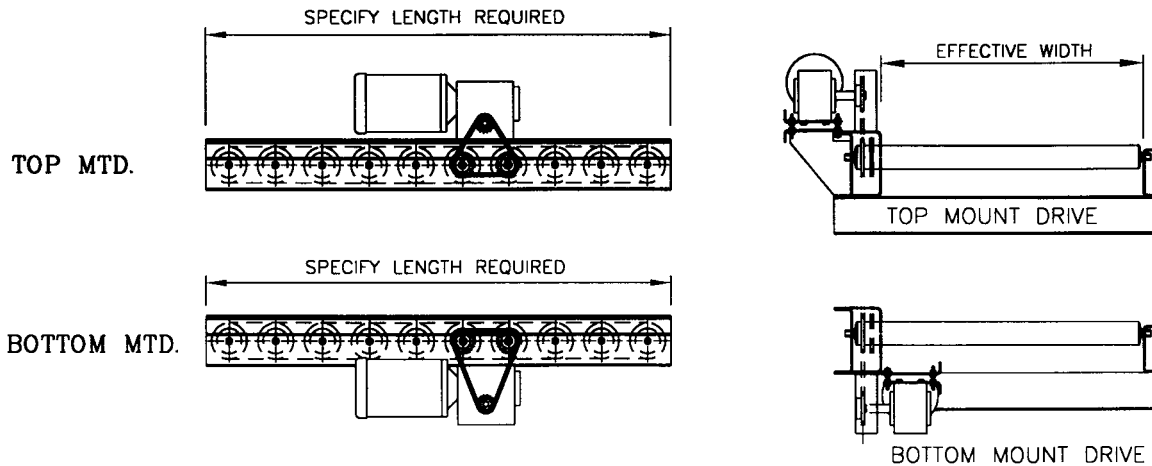


490 CDLR Drive Specifications:

Table 1 – 490 Series 6 1/2” Roller Centers Maximum Load in weight per foot.

Horsepower	Length of Unit	
	20'	50'
1 ½ Hp	975	298
2 Hp	1350	448
3 Hp	2100	750

**Tables are based on speeds up to 30 Feet per Minute.
Heavier loads require supports on 5' centers.**



490 CDLR Drive Specifications:

Motor: Nema “C” face heavy-duty industrial type. Three phase is standard.

Single phase is available as an option.

Reducer: Heavy-duty right angle gear head reducer (worm gear type).

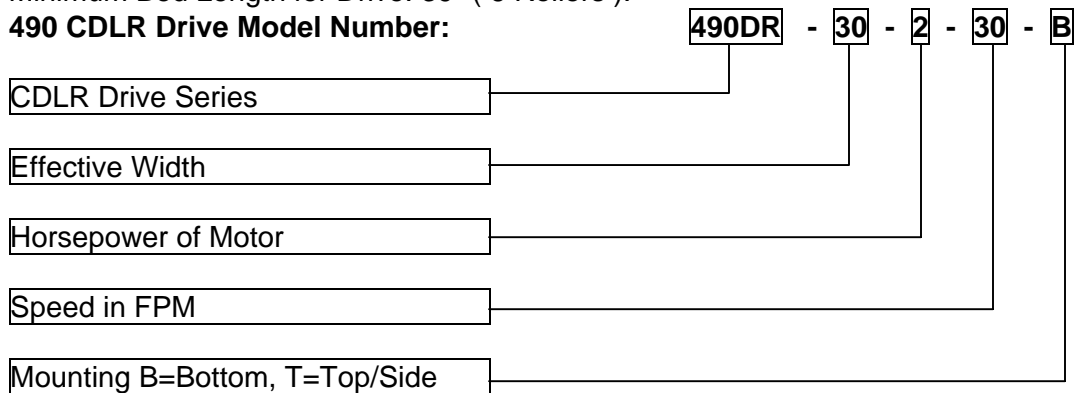
Drive Sprocket: Sized for speed with RC-80 chain.

Speed: Standard Speeds are 20 and 30 Feet Per Minute.

Minimum Top Of Roller Height: 7-13/16” for top mounted drive & 21” for bottom mounted drive.

Minimum Bed Length for Drive: 39” (6 Rollers).

490 CDLR Drive Model Number:



**Order Separately: Conveyor Bed Section, Guard Rail, Supports and Controls.
Options include Brake Motors, Clutch/Brake Modules and Single Phase motors.**



Chain Driven Live Roller Options:

Frame Options:

Butt Bolt Frame Connectors
Heavy Duty Scalloped Guards
Special Widths to match an Existing Conveyor
Special Paint Colors
Powder Coated Frames
Bright Zinc Plating on Frames

Roller Options:

Special Roller Lengths
Powder Coated Rollers
Bright Zinc Plating on Rollers
Pinned Roller Axles

Drive Options:

Single or Three Phase Motors
Clutch/Brake Assemblies
Brake Motors

Transfer Options:

Raised and Lowered Sensors



470 and 480 Replacement Parts:

470 Rollers 1.9" x 13 gage with (2) 40A18 Sprockets welded

Effective Frame Width	1.9" Diameter 13 Ga. Steel Rollers 7/16" Hex Axle
12	470-12-RS
15	470-15-RS
18	470-18-RS
21	470-21-RS
24	470-24-RS
27	470-27-RS
30	470-30-RS
33	470-33-RS
36	470-36-RS
42	470-42-RS
45	470-45-RS

480 Rollers 2 1/2" x 11 gage with (2) 60A15 Sprockets welded

Effective Frame Width	2.5" Diameter 11 Ga. Steel Rollers 11/16" Hex Axle
21	480-21-RS
27	480-27-RS
33	480-33-RS
39	480-39-RS
45	480-45-RS
51	480-51-RS
57	480-57-RS
63	480-63-RS

490 Rollers 3 1/2" x 0.300 wall with (2) 80A16 Sprockets welded

Effective Frame Width	3.5" Diameter x 0.300 Steel Rollers 1-1/16" Hex Axle
30	490-30-RS
40	490-40-RS
50	490-50-RS
60	490-60-RS
70	490-70-RS
80	490-80-RS

Chain Parts:

40B12T to 40B17T	Standard Sprockets for #40 Chain
40-Chain	Feet of #40 Roller Chain
60B12T to 60B17T	Standard Sprockets for #60 Chain
60-Chain	Feet of #60 Roller Chain
80B13T to 80B16T	Standard Sprockets for #80 Chain
80-Chain	Feet of #80 Roller Chain

Touch-Up Paint

MB-SPaint	Spray Can of Metzgar Blue Touch-up Paint
MB-1gCPaint	One Gallon Can of Metzgar Blue Touch-up Paint
VG-SPaint	Spray Can of Vista Green Touch-up Paint
VG-1gCPaint	One Gallon Can of Vista Green Touch-up Paint