



ARROWHEAD
CONVEYOR CORPORATION
The Dominant Force in Material Handling

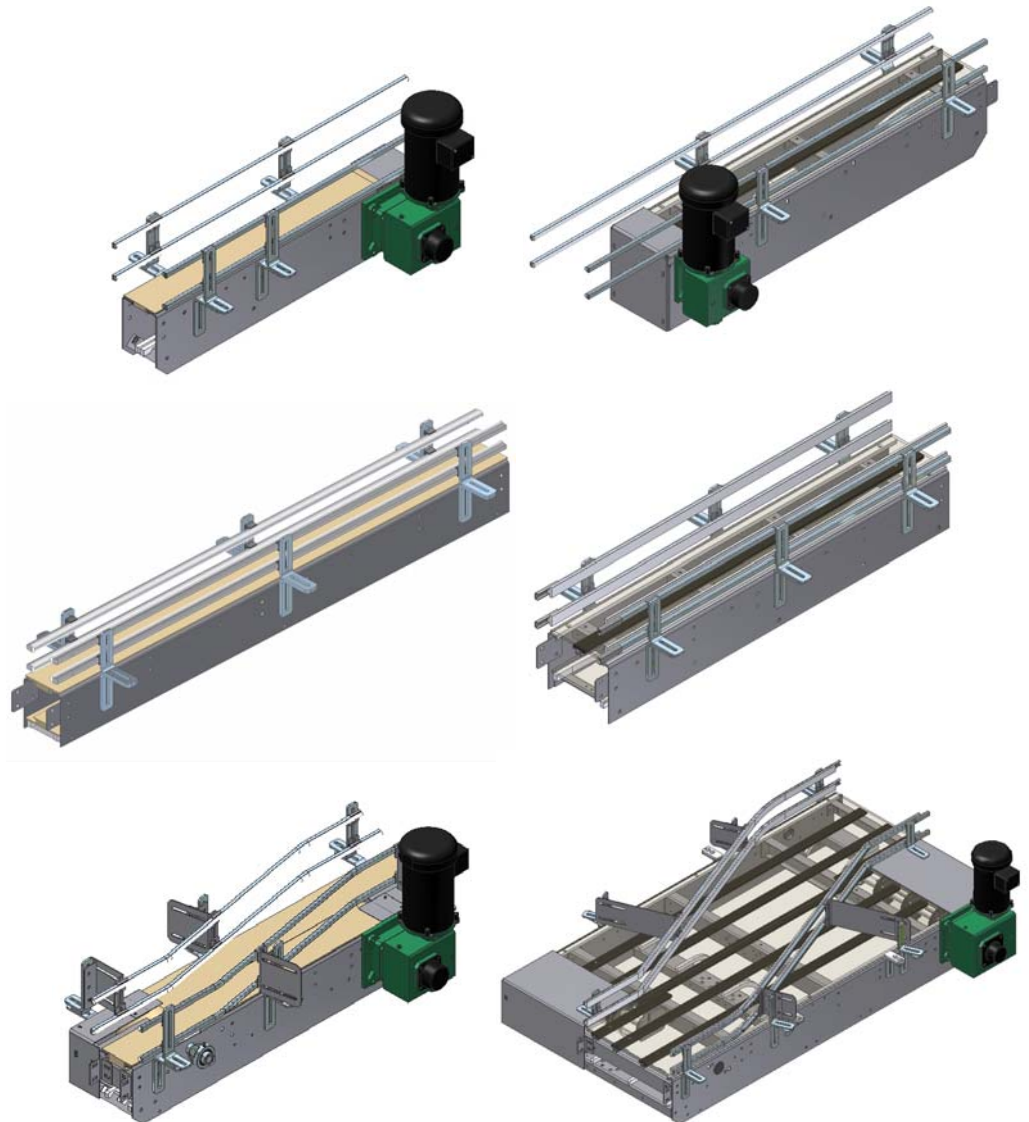
Technical Manual

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ArrowSelect®

QUICK SHIP CONVEYORS



ArrowSelect® Technical Manual

When you need to add or replace a component or section of your product handling system, ArrowSelect® can **SAVE COSTS**... in dollars and time.

The ArrowSelect® Concept

ArrowSelect® can streamline your new conveyor configuration – whether your system faces upgrades due to new contracts or changes in product design.

ArrowSelect® allows you to...

- **Select** pre-manufactured components or conveyor sections in the easy-to-use ArrowSelect® Technical Manual.
- **Order** your new components or sections by calling the ArrowSelect® hotline at 920-235-5562.
- **Receive** your order in 1/3 the time it would take to receive a custom order.
- **Install** the new components using your own personnel, saving installation costs.

We stock most standard components and conveyor sections, allowing us to ship your order without delay – typically within two weeks or less.

The ArrowSelect® Promise

ArrowSelect® offers you an entire family of both table top and mat top conveyors and complementary products for your product handling system.

ArrowSelect® assures you of...

- **Quick Delivery**
We maintain an inventory with standard conveyor components so we can respond rapidly to your needs.
- **Optimum Quality**
ArrowSelect® components and sections have been designed and precision engineered for layout flexibility, easy installation, and long term reliability.
- **Maximum Value**
Arrowhead purchases in large volume so we can produce conveyor components and sections at LOW cost... and pass the savings on to you.

In Stock Components

The key to ArrowSelect® is Arrowhead Conveyor's complete inventory of finished components.

- Each component is manufactured to exact tolerances and inspected before being placed in inventory.
- When you order ArrowSelect®, we immediately respond to your needs by assembling and shipping a finished product of utmost quality.

Questions?

Call the ArrowSelect Hotline...

920-235-5562

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ArrowSelect® Table Top Conveyors

Table Top General Specifications

1) MATERIAL

- 12 gauge #4 polish type 304 stainless steel side frames
- 10 gauge mild steel frames painted Burke Superlife 316 SS Flake

2) CHAIN TYPES

Straight	Flex
LF820 - K3¼	LF879T - K3¼
LF820 - K4½	LF879T - K4½
LF820 - K7½	LF880T - K3¼
LF821 - K7½	LF880T - K4½
LF821 - K10	LF882T - K4½
LF821 - K12	LF882T - K7½
LF831 - K3¼	LF882T - K10
LF831 - K4½	LF882T - K12
LF831 - K7½	SS881T - K3¼
SS815 - K3¼	SS881T - K4½
SS815 - K4½	SS881T - K7½
SS815 - K7½	

3) OPEN TOP CONSTRUCTION

- 8" deep side frames on all drive and idle ends and transfers
- 5½" deep side frames on all intermediate sections with roller return
- 6½" deep side frames on all intermediate sections with serpentine return

4) WEARSTRIPS UHMW

- ½" x 1" clip-on for 3¼" and 4½" wide chains
- ½" x 2" clip-on for 7½" wide chains
- ¼" x 3" clip-on for 10" and 12" wide chains

5) CHAIN RETURN

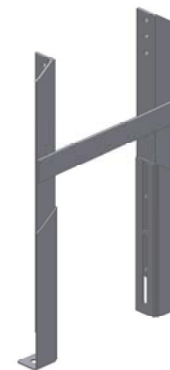
- Serpentine style
- PVC Roller with Delrin end bearings
- Slider on tab (turns only)

6) BEARINGS

- Two-hole flange bearings are mounted internally, except for the drive side where bearing is mounted externally

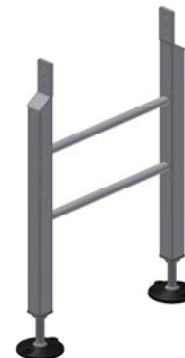
7) SUPPORTS

- All supports available from 27" elevation to 57" elevation in 1" increments
- CSA-103 supports have ± 3" adjustment from the base elevation



Angle Support
CSA-103

- CSA-106 supports have ± 2" adjustment from the base elevation



Square Tube Support
CSA-106

- continued

For other elevations consult factory:

- CSA-103 Mild steel support; painted mild steel angle with painted cross member and formed mild steel plated foot
- CSA-103 Stainless steel support; stainless steel angle with stainless steel cross member and formed stainless steel foot
- CSA-106 Mild steel support; mild steel square tube with mild steel round cross member, threaded plastic insert, stainless steel threaded rod, and articulating plastic foot
- CSA-106 Stainless steel support; stainless steel square tube with stainless steel round cross member, threaded plastic insert, stainless steel threaded rod, and articulating plastic foot

8) GUIDE RAIL BRACKETS

- Adjustable only; stainless steel or mild steel plated, formed 1/4" x 1 1/2" material slotted for vertical and horizontal adjustment

9) GUIDE RAILS

- Aluminum Arrowglide with flat or round profile covering and plastic compression clips; single or double high rail
- Formed stainless steel with UHMW round or 1/4" flat profile insert and plastic compression clips

10) MOTOR MOUNT

- Vertically flange mounted drive motor is standard; underslung and below mount are optional
- Left hand motor mount is standard; right hand optional

11) DRIVE PACKAGE

- Inverter duty drive is standard "C" face motor (230 / 460-3-60) with right angle reducer
- Motor horsepower available:

1/2	3/4	1	1 1/2
-----	-----	---	-------

- Speeds available (in feet per minute) at 60 hertz:

44	53	66	89
106	133	177	266

- Other intermediate speeds can be acquired by incorporating variable frequency drives

NOTE: For additional speeds, consult the manufacturer. Longer deliveries may be required.

Table Top Engineering / Application

DRIVE CONSTRUCTION

The drive unit consists of two formed angle frames that are 8" deep and beveled at splice to match a 5½" or 6½" deep intermediate frame with cross spacers, UHMW wearstrip guides and return rollers or serpentine return. The frame is available in 12 gauge stainless steel with #4 polish or 10 gauge painted mild steel.

Shaft: 1" diameter steel or 1" diameter type 303 stainless steel with ¼" keyway for securing sprocket; drive assembly has extended shaft with keyway

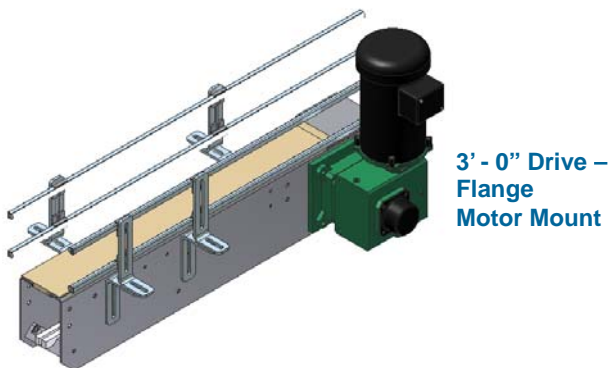
Bearings: Standard 2 hole flange type mounted with round cut-out in frame for pull through removal of shaft; internal bearings have lubrication access

Sprocket: Supplied as required for type of table top chain used

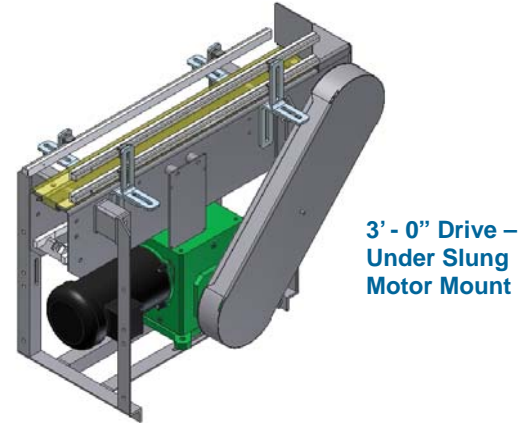
End Cap: Full depth bolt-on with finger guard mounted to end cap for pinch point protection

Motor Mount: Flange mounted or under slung with chain guard mount; guard located on left or right side of unit when looking in direction of product flow

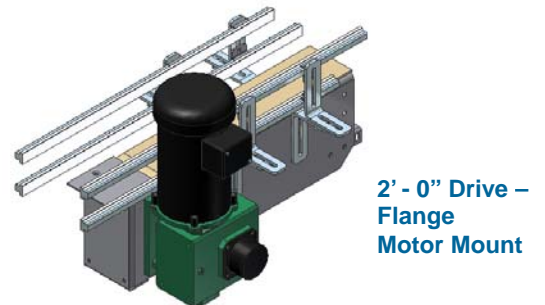
- 3' - 0" drive (standard) – Flange motor mount design



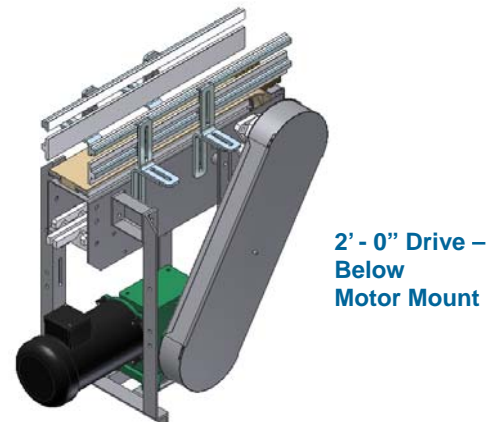
- 3' - 0" drive (optional) – Under slung motor mount with chain, sprockets, and chain guard



- 2' - 0" drive (standard) – Flange motor mount design



- 2' - 0" drive (optional) – Below motor mount with chain, sprockets, and chain guard



IDLE CONSTRUCTION

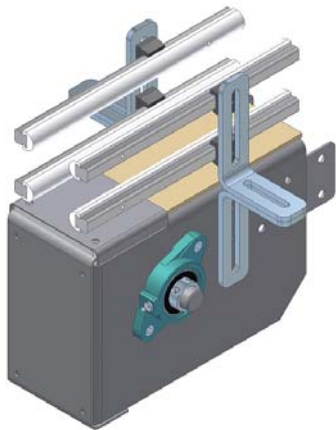
The idle unit consists of two formed angle frames that are 8" deep and beveled at splice to match a 5½" or 6½" deep intermediate frame with cross spacers, UHMW wearstrip guides and return rollers or serpentine rollers. The frame is available in 12 gauge stainless steel with #4 polish or 10 gauge painted mild steel.

Shaft: 1" diameter cold rolled steel or 1" diameter type 303 stainless steel with ¼" keyway for securing sprocket

Bearings: Standard 2 hole flange type mounted with round cut-out in frame for pull through removal of shaft; internal bearings have lubrication access

Sprocket: Supplied as required for type of table top chain used

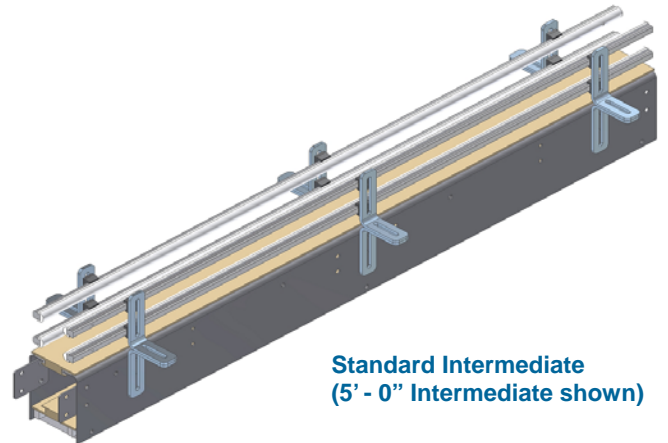
End Cap: Full depth bolt-on with finger guard mounted to end cap for pinch point protection



1' - 0" Idle End

INTERMEDIATE CONSTRUCTION

The intermediate unit consists of two formed angle frames that are 5½" or 6½" deep with cross spacers, UHMW wearstrip guides and return rollers or serpentine return. Lengths are available from 6" to 5' - 0" in 1" increments and from 5' - 6" to 10' - 0" in 6" increments. The frame is available in 12 gauge stainless steel with #4 polish or 10 gauge painted mild steel.



Standard Intermediate
(5' - 0" Intermediate shown)

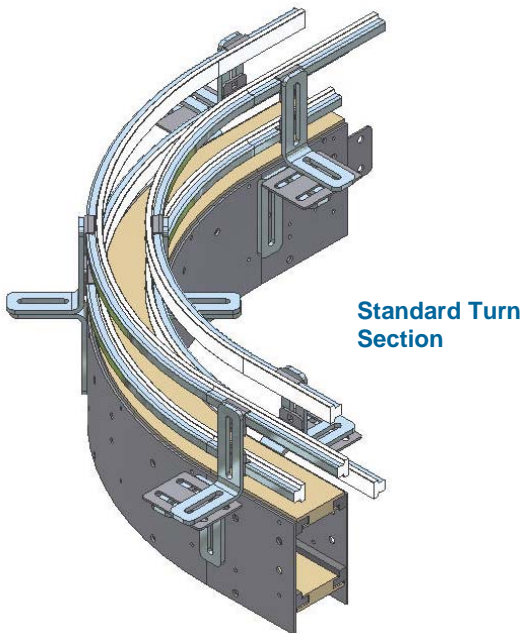
TURN CONSTRUCTION

The turn unit consists of two rolled side frames that are 5½" or 6½" deep with cross spacers, UHMW wearstrip guides, and impregnated lubricant in top way and chain return. The frame is available in 11 gauge #4 polish stainless steel or 10 gauge hot rolled painted mild steel.

Standard Turns:

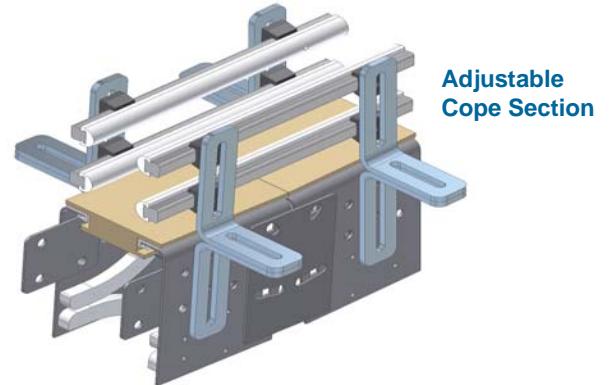
- 30°, 45°, and 90° turn for 4½", 7½", 10", and 12" flex chains with centerline radius of 24"
- 30°, 45°, and 90° turn for double 7½" flex chain with centerline radius of 24"
- 30°, 45°, and 90° turn for 3¼" flex chain with centerline radius of 18"

NOTE: All standard turns have a 6" straight tangent on both ends.



ADJUSTABLE COPE CONSTRUCTION

The adjustable cope unit consists of two angle frames that are 5½" or 6½" deep with cross spacers, UHMW wearstrip guides and return roller. The modular design allows for angle adjustment ± 10°.



Application:

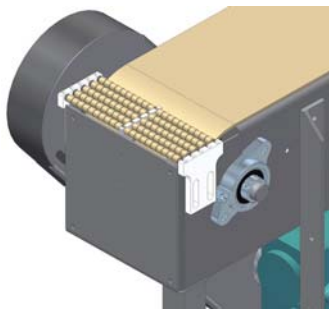
Adjustable copes are utilized where elevation changes are required.

Several aspects must be considered when utilizing copes, including but not limited to the following:

- Product slippage
- Tipping of the product
- Minimum back flex radius of the conveyor chain
- Possible tab chain requirement
- Maximum ¾" per foot inclines and declines allowable (consult factory for anything greater)

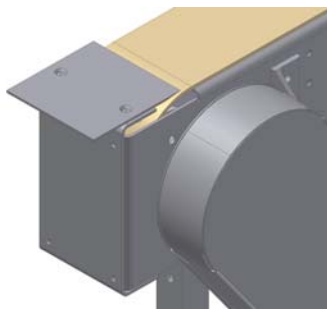
TRANSFER PLATE CONSTRUCTION

The roller transfer plate unit consists of two UHMW side plates with stainless steel axles and LBP rollers.



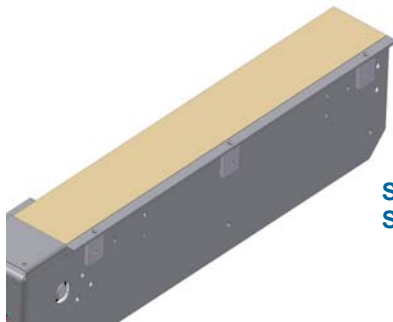
**LBP Roller
Transfer Plate**

The stainless steel end transfer plate unit consists of a full width plate with bevel on chain side.



**Stainless Steel
End Transfer Plate**

The stainless steel side transfer plate unit consists of a vertically adjustable stainless steel plate.



**Stainless Steel
Side Transfer Plate**

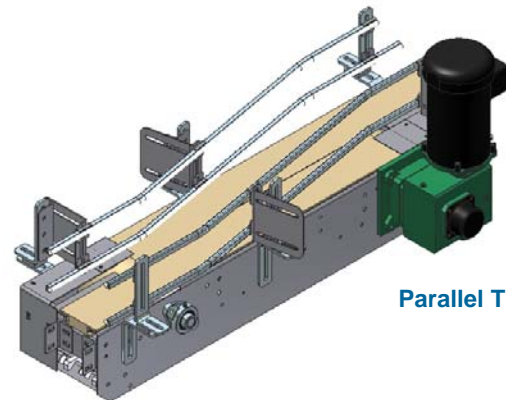
Application:

Transfer plates are utilized to bridge the gap between conveyor sprockets on end to end transfers. Transfer plates are often NOT self clearing.

Where minimal gaps are required, parallel or inline transfers are recommended.

PARALLEL TRANSFER CONSTRUCTION

The parallel transfer unit consists of a single 48" frame that is 8" deep and beveled at splice to match a 5 1/2" or 6 1/2" deep intermediate frame that will accommodate two lanes of table top straight and / or flex chain. It is constructed so the table top chains have 1/16" gap between them to eliminate the need for dead plates.



Parallel Transfer

Application:

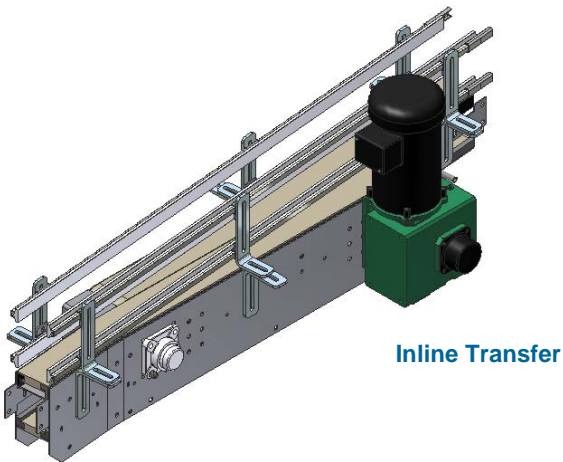
Parallel transfer units reduce the length of a single chain pull while maintaining constant control of the product without requiring the use of dead plates at the transfer point. Reducing chain pull tensions can greatly increase the life expectancy of the table top chain and other conveyor components.

Parallel transfer units are also utilized when line speeds are changed to provide an increase in proper product spacing or rate, a decrease in accumulation, or constant back pressure to a particular machine.

NOTE: It is recommended that each parallel transfer be provided with two supports.

INLINE TRANSFER CONSTRUCTION

The inline transfer unit consists of a single 54" long frame that is 8" deep and beveled at splice to match 6 1/2" deep intermediate frame that will accommodate two lanes of table top flex chain. It is constructed so the table top chains have 1/16" gap between them to eliminate the need for dead plates. Inline transfers are only available for 3 1/4" and 4 1/2" chain widths.



Application:

Inline transfer units are similar to parallel transfers but with a straight product path, eliminating product damage and increasing product stability.

Table Top General Information

TABLE TOP CHAIN SELECTION

When selecting the proper table top chain, it is important to consider the following factors:

Product:

Determine the type of product the conveyor will transport. What type of material is the product? What type of material is the container? Will the container be filled with chemicals that have corrosive properties?

Environmental Conditions:

Determine the temperatures and atmospheric conditions in which the conveyor will operate. Will the atmosphere be abrasive, combustible, or explosive? Will there be corrosive material?

Accumulation or Transportation:

Determine whether the product will be accumulated or simply transported.

Conveyor Washdown:

Determine the chemical properties of washdown solutions required for your conveyor. Will the washdown solutions be compatible with your chain selection?

Chain Lubrication:

Determine the type of lubrication necessary to maintain the type of chain. The type of lubrication can greatly enhance the wearstrip to chain compatibility. What type of material is the chain? Lubrication is required for steel and stainless steel chains and recommended for all chains. Proper lubrication will provide the lowest friction factor between the product, chain, and chain wearstrip.

CHAIN AND PRODUCT COMPATIBILITY GUIDE

Use the following guidelines when considering the compatibility of the chain and product:

Stainless Steel Chains:

- Soft drink and brewery glass handling conveyor
- Glass handling conveyor where glass breakage is present
- Food processing and industrial where some acids or chemicals may be handled

Steel Chains:

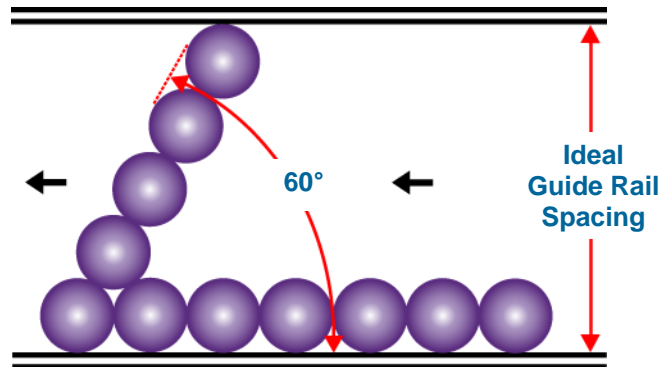
- Glass manufacturing plants
- Industrial applications

Plastic Chains:

- Soft drink and brewery steel and aluminum can handling conveyor
- Paper container handling
- Plastic container handling

GUIDE RAIL SETTINGS (Round Product)

The ideal guide rail setting provides straight rows of product at 60° to the guide rail.



Determine the guide rail settings with the following formula.

Formula for Guide Rail Settings:

S = Rail Setting

D = Product Diameter

$$S = [(No. of Rows - 1) \times (\sin 60 \times D)] + D$$

Example:

D = 2" No. of Rows = 3

$$S = [(3 - 1) \times (\sin 60 \times 2'')] + 2''$$

$$S = 5.46'' + .125''$$

$$S = 5.59'' \text{ Rail Setting}$$

1/8" should be added to each side for product running clearance

CONVEYOR SPEEDS

When determining the speed of the conveyor, remember that the chain and conveyor components will last longer if you do not run the chain faster than the speed required to properly carry the product and maintain production machine rates.

When conveying product in single file to a production machine, it is common to run the chain approximately 20% over production rates.

Formula for Conveyor Speed Settings:

SS = Speed Setting

D = Product Diameter

PPM = Products Per Minute

FPM = Feet Per Minute

$$SS = (\text{Machine Rate} \div \text{Products per Foot of Chain}) \times 1.2''$$

Example:

D = 3" Machine Rate = 100 PPM

Products per Foot of Chain = 12" ÷ D

$$SS = [100 \div (12'' \div 3'')] \times 1.2''$$

$$SS = (100 \div 4) \times 1.2''$$

$$SS = 25 \times 1.2''$$

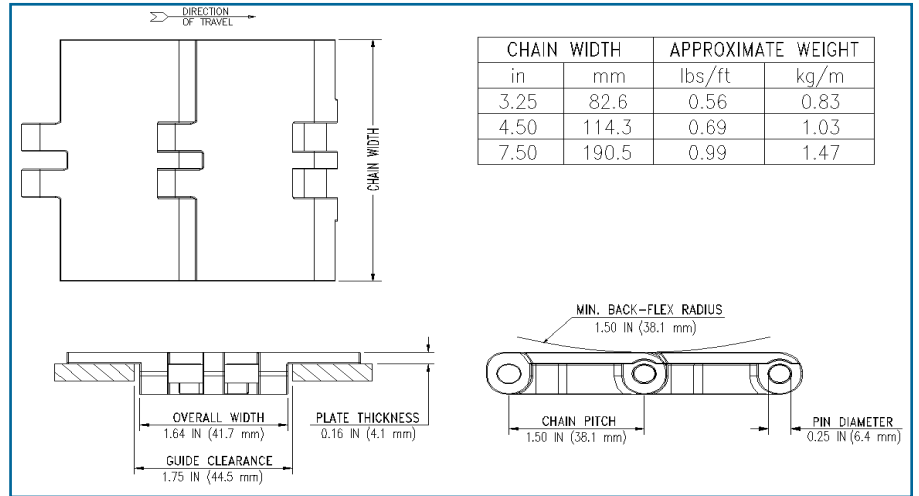
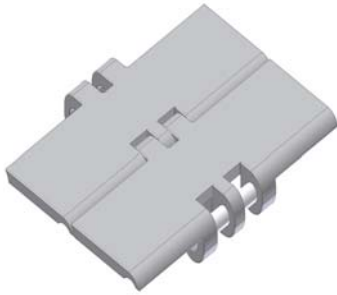
$$SS = 30 \text{ FPM Speed Setting}$$

When high speed packaging machines cause infeed and discharge chains to run at extremely high speeds, it is not practical to run the product single file any longer than required. In such cases, wider or multiple chains can be added to slow down the product. Wider chains can also be used for product accumulation.

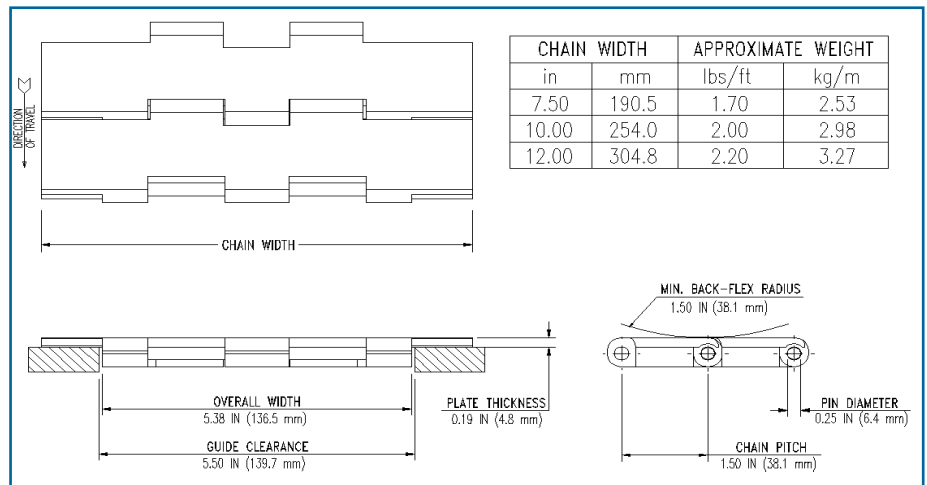
When determining inline accumulation speeds, use the basic speed formula plus a higher percent of increase to allow sufficient accumulation space. Approximately 30 to 50% of clear area is required on the conveyor for this type of accumulation.

Table Top Chain Types and Dimensions

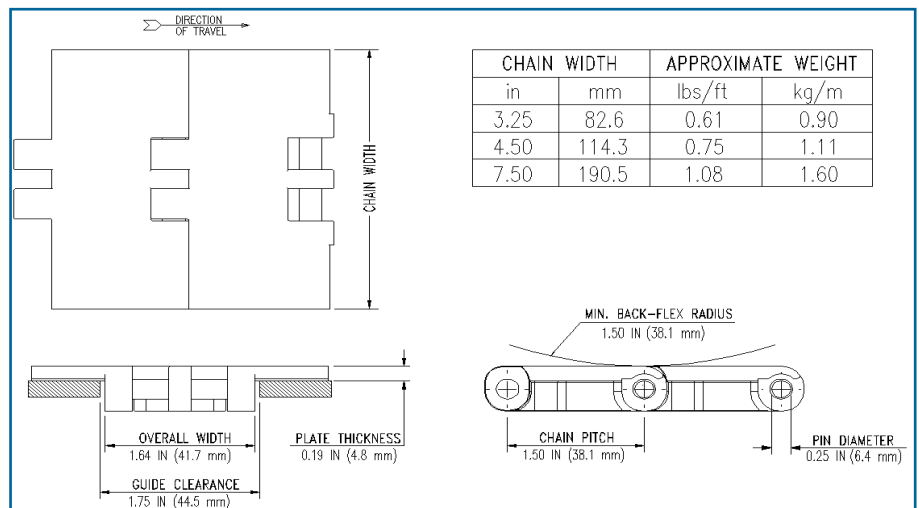
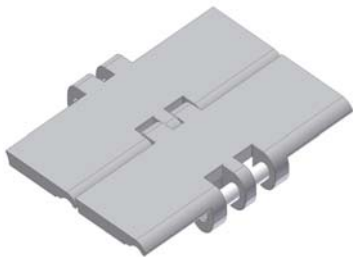
LF820 CHAIN (STRAIGHT)



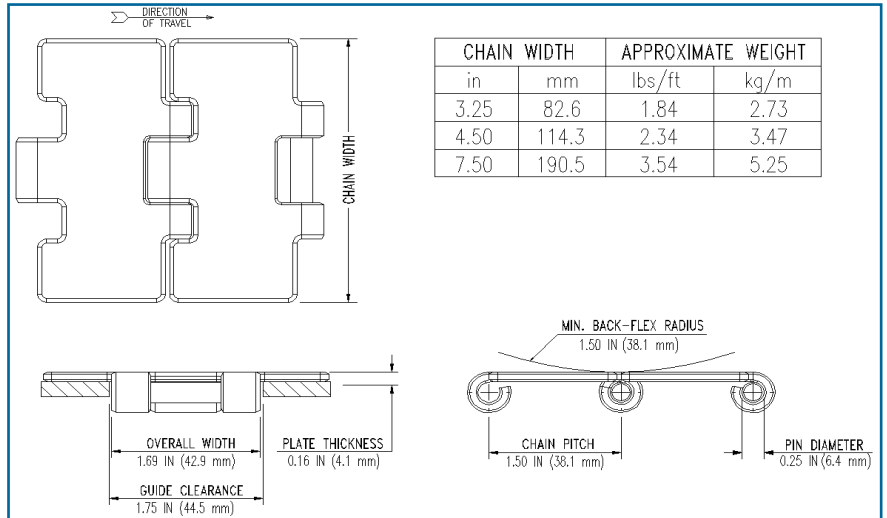
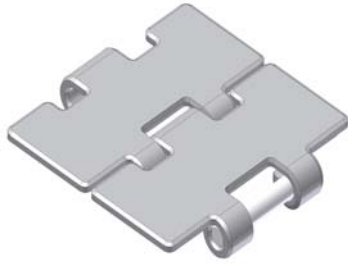
LF821 CHAIN (STRAIGHT)



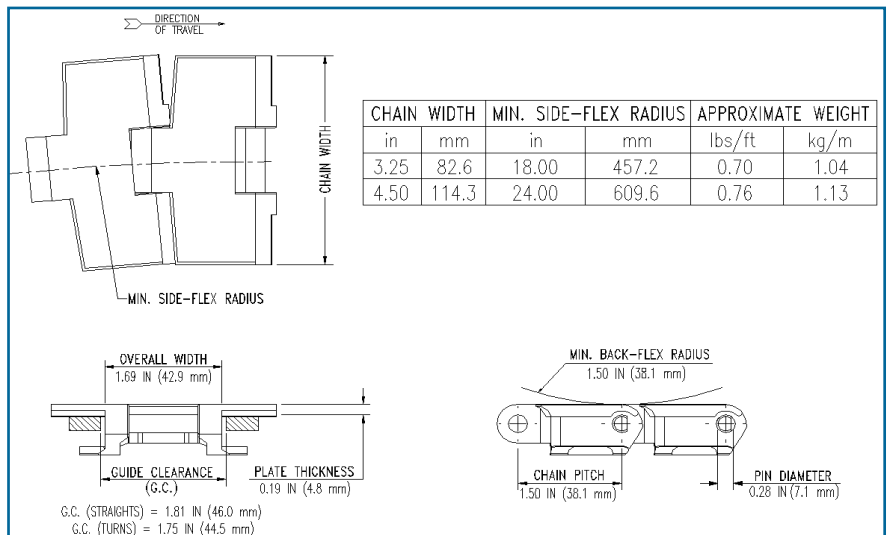
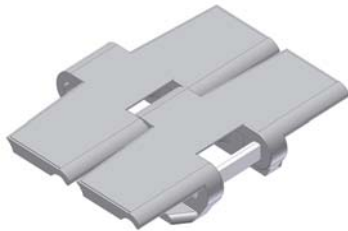
LF831 CHAIN (STRAIGHT)



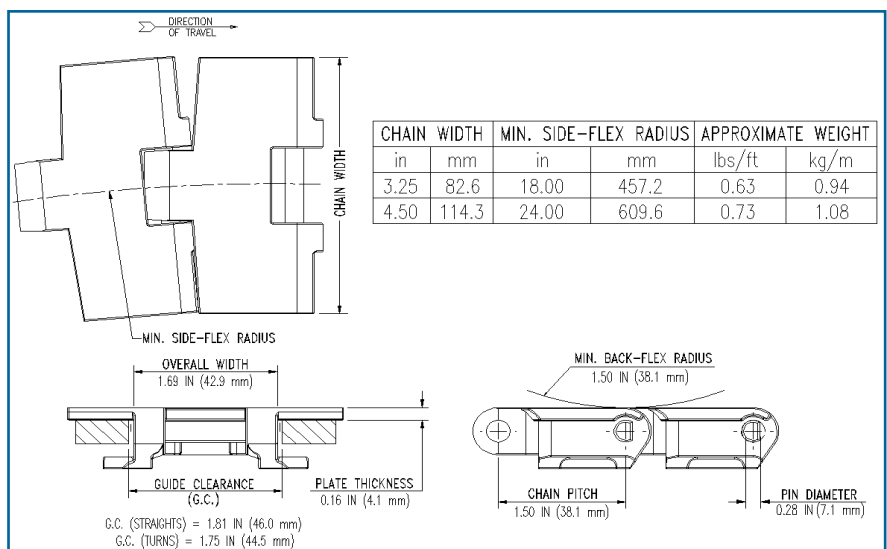
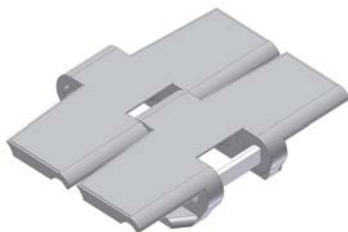
SS815 CHAIN (STRAIGHT)



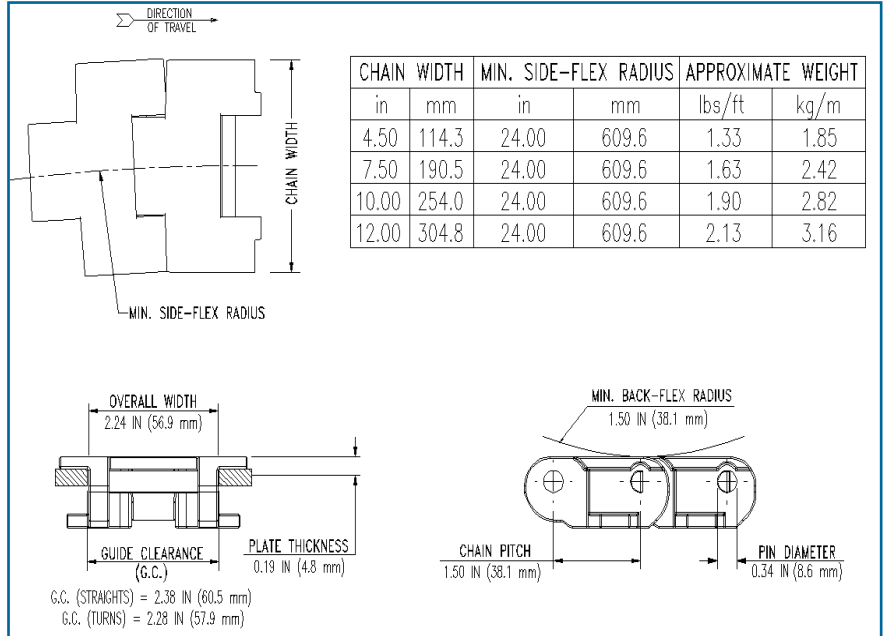
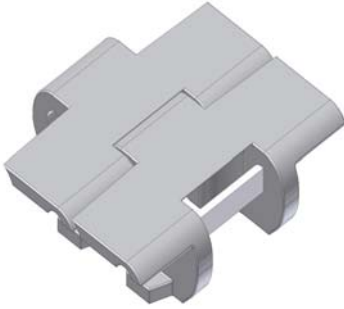
LF879TAB CHAIN (CURVE)



LF880TAB CHAIN (CURVE)



LF882TAB CHAIN (CURVE)



SS881TAB CHAIN (CURVE)

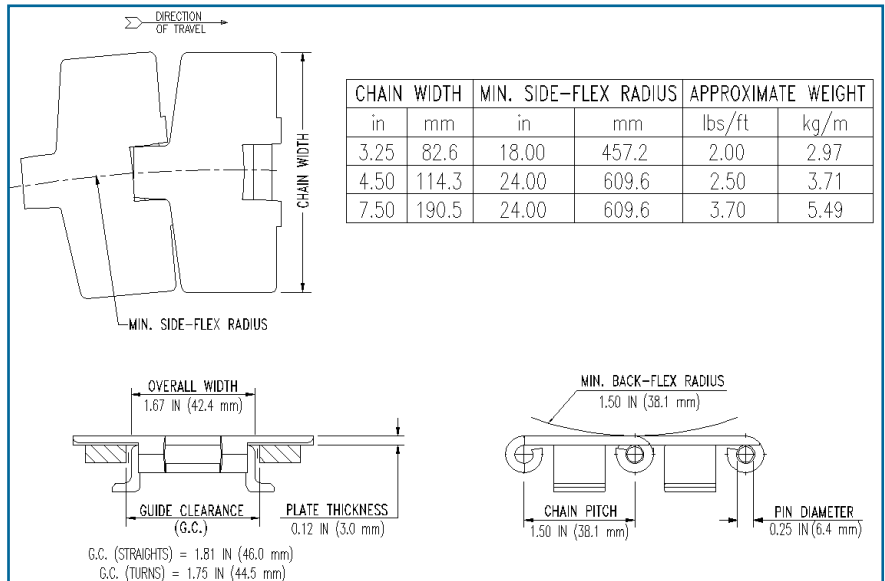
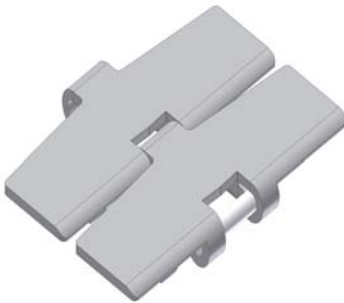
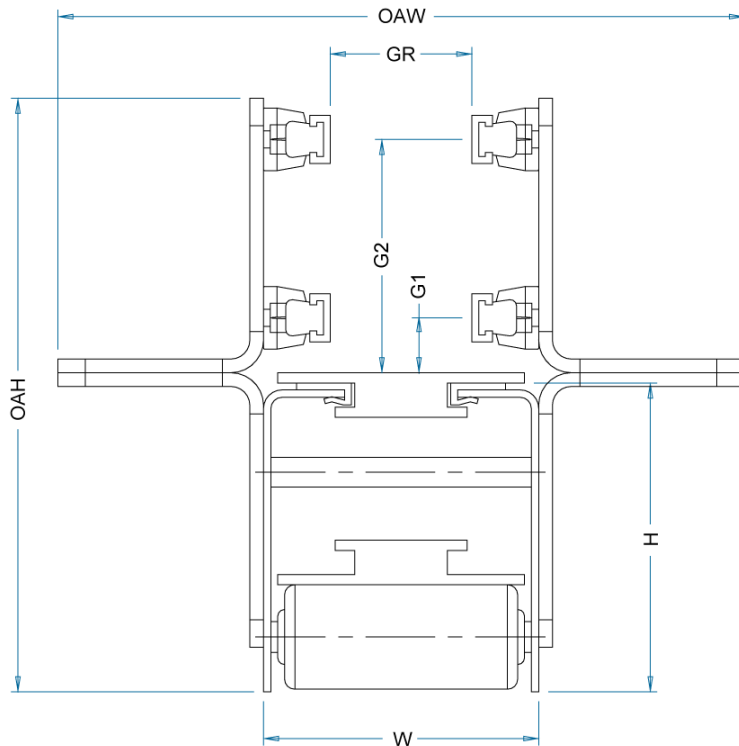


Table Top Standard Cross-Section Styles and Dimensions

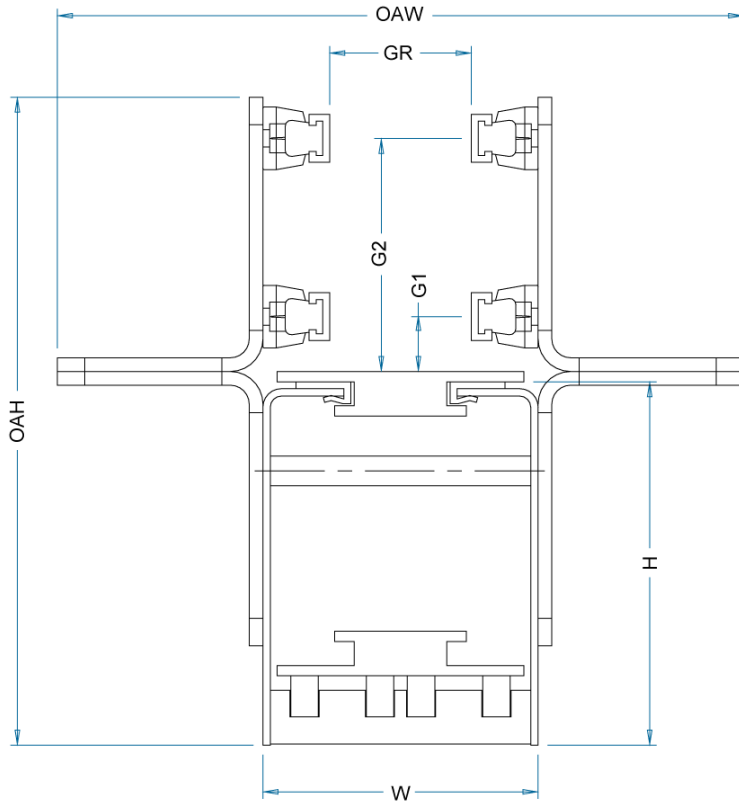
STRAIGHT RETURNS

Straight Roller Return Cross-Section



Chain Width	W	H	GR	G1	G2	OAW	OAH	
3.25"	3.75"	5.62"	Close	0.93"	2.06"	11.25"	9.75"	Min
			5.50"	3.18"	4.31"	15.25"	10.25"	Max
4.50"	5.00"	5.62"	Close	0.93"	2.06"	12.50"	9.75"	Min
			6.75"	3.18"	4.31"	16.50"	10.25"	Max
7.50"	8.00"	5.62"	1.50"	0.93"	2.06"	15.50"	9.75"	Min
			9.75"	3.18"	4.31"	19.50"	10.25"	Max
10.00"	10.50"	5.62"	4.00"	0.93"	2.06"	18.00"	9.75"	Min
			12.25"	3.18"	4.31"	22.00"	10.25"	Max
12.00"	12.50"	5.62"	6.00"	0.93"	2.06"	20.00"	9.75"	Min
			14.25"	3.18"	4.31"	24.00"	10.25"	Max
Double	15.50"	5.62"	9.00"	0.93"	2.06"	23.00"	9.75"	Min
7.50" (15.00")			17.25"	3.18"	4.31"	27.00"	10.25"	Max

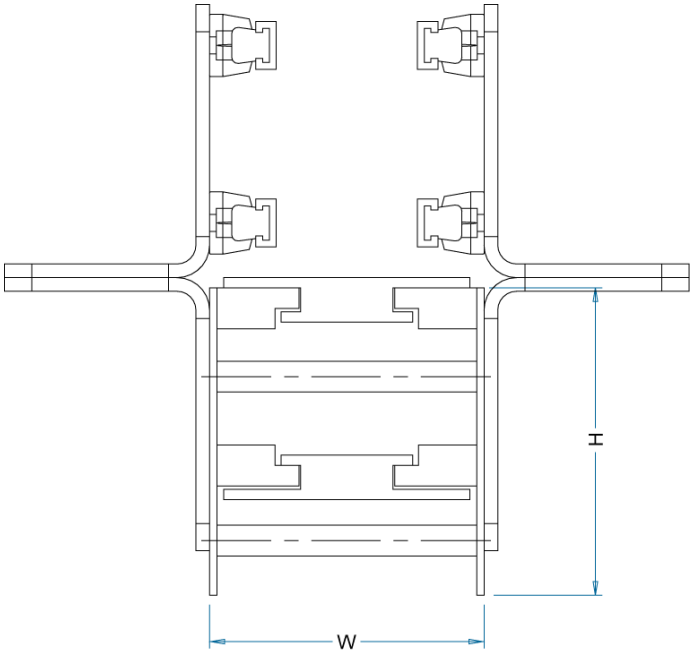
Straight Serpentine Return Cross-Section



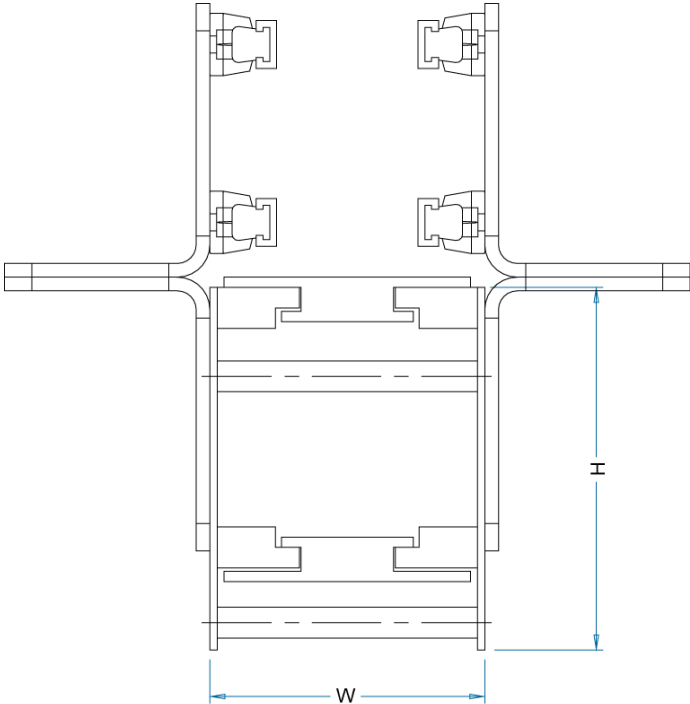
Chain Width	W	H	GR	G1	G2	OAW	OAH	
3.25"	3.75"	6.62"	Close	0.93"	2.06"	12.50"	9.75"	Min
			6.75"	3.18"	4.31"	16.50"	10.25"	Max
4.50"	5.00"	6.62"	Close	0.93"	2.06"	12.50"	9.75"	Min
			6.75"	3.18"	4.31"	16.50"	10.25"	Max
7.50"	8.00"	6.62"	1.50"	0.93"	2.06"	15.50"	9.75"	Min
			9.75"	3.18"	4.31"	19.50"	10.25"	Max
10.00"	10.50"	6.62"	4.00"	0.93"	2.06"	18.00"	9.75"	Min
			12.25"	3.18"	4.31"	22.00"	10.25"	Max
12.00"	12.50"	6.62"	6.00"	0.93"	2.06"	20.00"	9.75"	Min
			14.25"	3.18"	4.31"	24.00"	10.25"	Max
Double	15.50"	6.62"	9.00"	0.93"	2.06"	23.00"	9.75"	Min
7.50" (15.00")			17.25"	3.18"	4.31"	27.00"	10.25"	Max

CURVE RETURNS

Curve Roller Return Cross-Section



Curve Serpentine Return Cross-Section



ArrowSelect® Mat Top Conveyors

Mat Top General Specifications

1) MATERIAL

- 10 gauge #4 polish type 304 stainless steel side frames
- 10 gauge mild steel frames painted Burke Superlife 316 SS Flake

2) CHAIN TYPES

HP8505 – 3¼"	HP8506 – 3¼"
HP8505 – 4½"	HP8506 – 4½"
HP8505 – 7½"	HP8506 – 7½"
HP8505 – 12"	HP8506 – 12"
HP8505 – 15"	HP8506 – 15"
HP8505 – 18"	HP8506 – 18"
HP8505 – 24"	HP8506 – 24"

3) OPEN TOP CONSTRUCTION

- 9" deep side frames on all drive and idle ends and transfers
- 15" deep side frames on 90° transfers
- 7" deep side frames on all intermediates

4) WEARSTRIPS UHMW

- $\frac{3}{16}$ " x 1.00" clip-on UHMW on outside frames
- SS backed UHMW for center support

5) CHAIN RETURN

- Serpentine style
- PVC Roller with Delrin end bearings

6) BEARINGS

- Two-hole flange bearings

7) SUPPORTS

- All supports available from 27" elevation to 57" elevation in 1" increments
- CSA-103 supports have ± 3 " adjustment from the base elevation



- CSA-106 supports have ± 2 " adjustment from the base elevation



For other elevations consult factory:

- CSA-103 Mild steel support; painted mild steel angle with painted cross member and formed mild steel plated foot
- CSA-103 Stainless steel support; stainless steel angle with stainless steel cross member and formed stainless steel foot
- CSA-106 Mild steel support; mild steel square tube with mild steel round cross member, threaded plastic insert, stainless steel threaded rod, and articulating plastic foot

- continued

- CSA-106 Stainless steel support; stainless steel square tube with stainless steel round cross member, threaded plastic insert, stainless steel threaded rod, and articulating plastic foot

8) GUIDE RAIL BRACKETS

- Adjustable only; stainless steel or mild steel plated, formed ¼" x 1½" material slotted for vertical and horizontal adjustment

9) GUIDE RAILS

- Formed stainless steel with UHMW round or ¼" flat profile insert and stainless steel compression clips; double high

10) MOTOR MOUNT

- All drive motors to be flange mounted left hand or right hand assemblies as required

11) DRIVE PACKAGE

- Inverter duty drives as standard "C" face motors (230 / 460-3-60) with right angle reducers
- Motor horsepower available:

1	1½	2
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- Speeds available (in feet per minute) at 60 hertz:

44	53	66	89
106	133	177	266

- Other intermediate speeds can be acquired by incorporating variable frequency drives

NOTE: For additional speeds, consult the manufacturer. Longer deliveries may be required.

Mat Top Engineering / Application

DRIVE CONSTRUCTION

The drive unit consists of two formed angle frames that are 9" deep and beveled at splice to match a 7" deep intermediate frame with cross spacers, UHMW wearstrip guides and return rollers or serpentine return. The frame is available in 10 gauge stainless steel with #4 polish or 10 gauge painted mild steel.

Shaft: $1\frac{7}{16}$ " diameter steel or $1\frac{7}{16}$ " diameter type 303 stainless steel with $\frac{3}{8}$ " keyway for securing sprocket; drive assembly has extended shaft with keyway

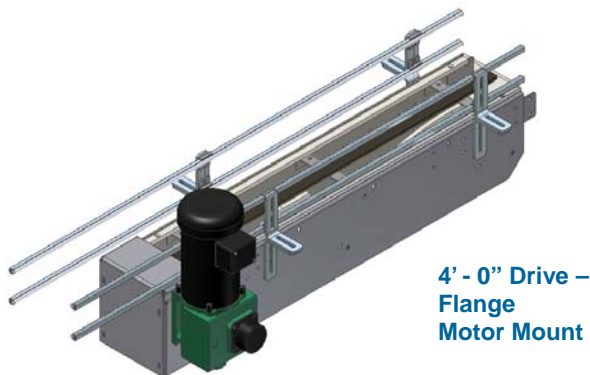
Bearings: Standard 2 hole flange type mounted with round cut-out in frame for pull through removal of shaft; internal bearings are lubed for life

Sprocket: Thermoplastic split

End Cap: Full depth bolt-on with finger guard, roller deadplate, or SS deadplate

Motor Mount: Flange mounted

- 48.00" drive (standard) – Flange motor mount design



IDLE CONSTRUCTION

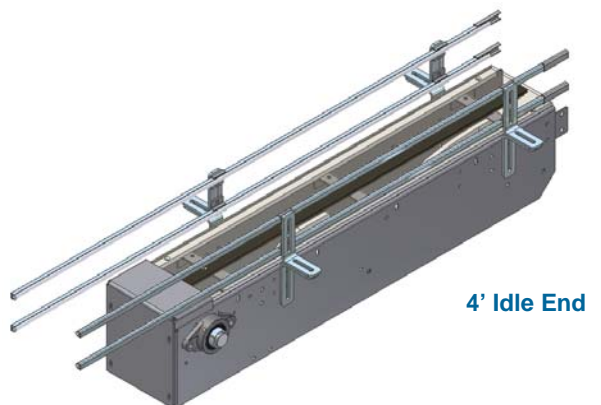
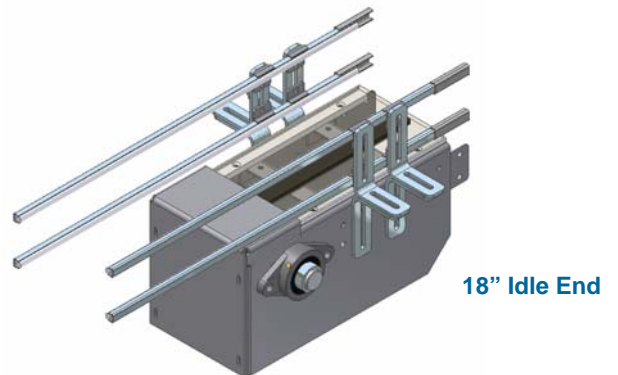
The idle unit consists of two formed angle frames that are 9" deep and beveled at splice to match a 7" deep intermediate frame with cross spacers, UHMW wearstrip guides and return rollers or serpentine rollers. The frame is available in 10 gauge stainless steel with #4 polish or 10 gauge painted mild steel; either 18" or 48" long.

Shaft: $1\frac{7}{16}$ " diameter cold rolled steel or $1\frac{7}{16}$ " diameter type 303 stainless steel with $\frac{3}{8}$ " keyway for securing sprocket

Bearings: Standard 2 hole flange type mounted with round cut-out in frame for pull through removal of shaft; internal bearings are lubed for life

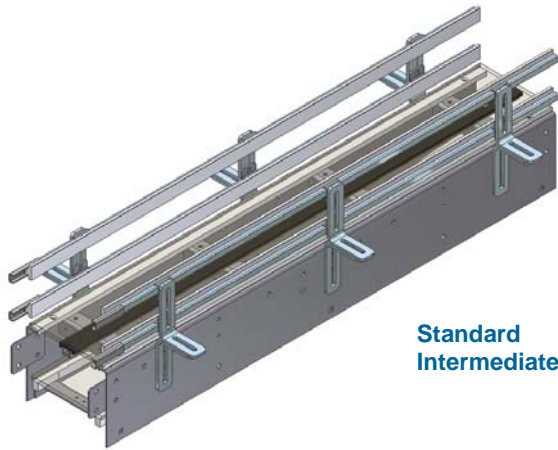
Sprocket: Thermoplastic split

End Cap: Full depth bolt-on with finger guard, roller deadplate, or SS deadplate



INTERMEDIATE CONSTRUCTION

The intermediate unit consists of two formed angle frames that are 7" deep with cross spacers, UHMW wearstrip guides and return rollers or serpentine return. Lengths are available from 6" to 5' - 0" in 1" increments and from 5' - 6" to 10' - 0" in 6" increments. The frame is available in 10 gauge stainless steel with #4 polish or 10 gauge painted mild steel.

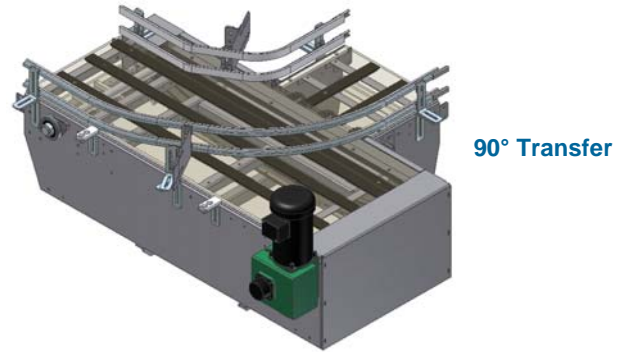


Application:

Intermediate sections are used for simple transportation and accumulation between drive and idle sections.

90° TRANSFER CONSTRUCTION

The 90° transfer unit consists of four side frames that are 15" deep with cross spacers, and UHMW wearstrip guides. The frame is available in 10 gauge #4 polish stainless steel or 10 gauge painted mild steel.



Application:

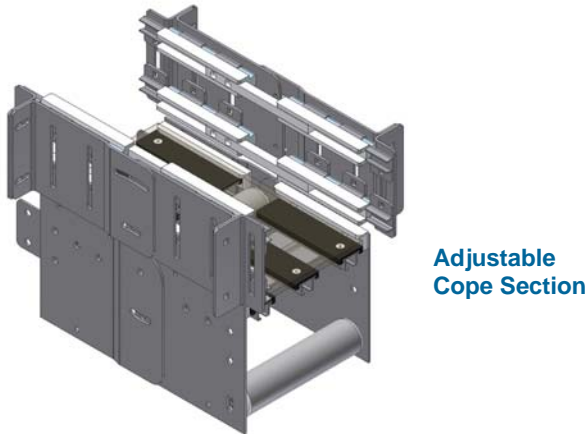
90° transfers are used for direction and / or speed changes. They are available in standard and reverse flow configurations.

Standard 90° Transfers:

Infeed		Discharge
15"	-	15"
15"	-	18"
18"	-	18"
18"	-	24"
24"	-	24"

ADJUSTABLE COPE CONSTRUCTION

The adjustable cope unit consists of two frames that are 7" deep with cross spacers, UHMW wearstrip guides and return roller. The modular design allows for angle adjustment $\pm 10^\circ$.



Application:

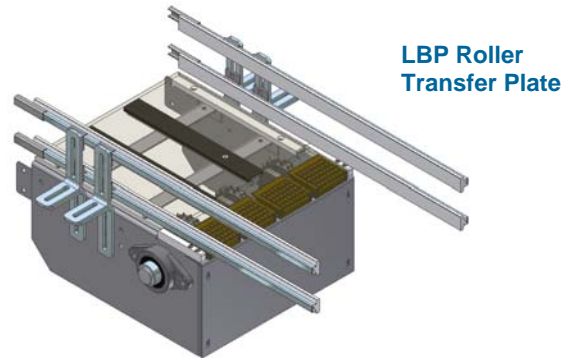
Adjustable copes are utilized where elevation changes are required.

Several aspects must be considered when utilizing copes, including but not limited to the following:

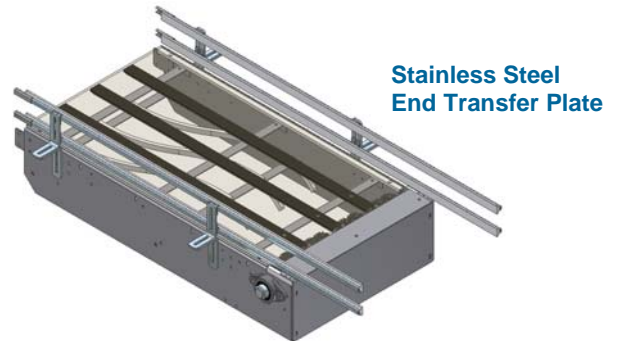
- Product slippage
- Tipping of the product
- Maximum $\frac{3}{4}$ " per foot inclines and declines allowable (consult factory for anything greater)

TRANSFER PLATE CONSTRUCTION

The roller transfer plate unit consists of stainless steel axles and LBP rollers.



The stainless steel end transfer plate unit consists of a full width plate with bevel on chain side.



The stainless steel side transfer plate unit consists of a side plate that adjusts vertically.



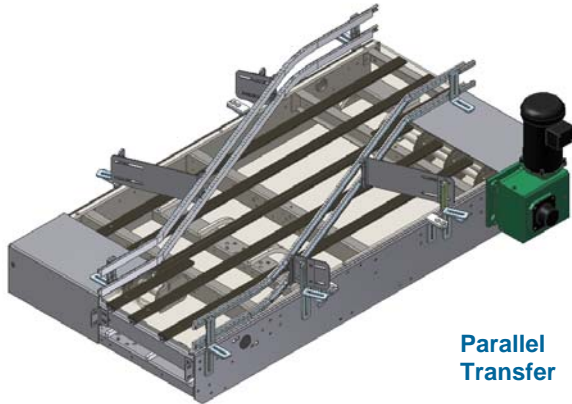
Application:

Transfer plates are utilized to bridge the gap between conveyor sprockets on end to end transfers. Transfer plates are often NOT self clearing.

Where minimal gaps are required, parallel transfers are recommended.

PARALLEL TRANSFER CONSTRUCTION

The parallel transfer unit consists of a single 48" or 72" frame that is 9" deep and beveled at splice to match a 7" deep intermediate frame that will accommodate two lanes of chain. It is constructed so the chains are side by side to eliminate the need for a dead plate.



Parallel Transfer

Application:

Parallel transfer units reduce the length of a single chain pull while maintaining constant control of the product without requiring the use of dead plates at the transfer point. Reducing chain pull tensions can greatly increase the life expectancy of the mat top chain and other conveyor components.

Parallel transfer units are also utilized when line speeds are changed to provide an increase in proper product spacing or rate, a decrease in accumulation, or constant back pressure to a particular machine.

NOTE: It is recommended that each parallel transfer be provided with two supports.

Standard Parallel Transfers:

Infeed		Discharge
3.25"	-	3.25"
3.25"	-	4.5"
3.25"	-	7.5"
4.5"	-	3.25"
4.5"	-	4.5"
4.5"	-	7.5"
4.5"	-	12"
7.5"	-	4.5"
7.5"	-	7.5"
7.5"	-	12"
7.5"	-	15"
12"	-	7.5"
12"	-	12"
12"	-	15"
12"	-	18"
15"	-	12"
15"	-	15"
15"	-	18"
15"	-	24"
18"	-	15"
18"	-	18"
18"	-	24"
24"	-	18"
24"	-	24"

Mat Top General Information

MAT TOP CHAIN SELECTION

When selecting the proper mat top chain, it is important to consider the following factors:

Product:

Determine the type of product the conveyor will transport. What type of material is the product? What type of material is the container? Will the container be filled with chemicals that have corrosive properties?

Environmental Conditions:

Determine the temperatures and atmospheric conditions in which the conveyor will operate. Will the atmosphere be abrasive, combustible, or explosive? Will there be corrosive material?

Accumulation or Transportation:

Determine whether the product will be accumulated or simply transported.

Conveyor Washdown:

Determine the chemical properties of washdown solutions required for your conveyor. Will the washdown solutions be compatible with your chain selection?

Chain Lubrication:

Determine the type of lubrication necessary to maintain the type of chain. The type of lubrication can greatly enhance the wearstrip to chain compatibility. What type of material is the chain? Lubrication is recommended for all chains. Proper lubrication will provide the lowest friction factor between the product, chain, and chain wearstrip.

CHAIN AND PRODUCT COMPATIBILITY GUIDE

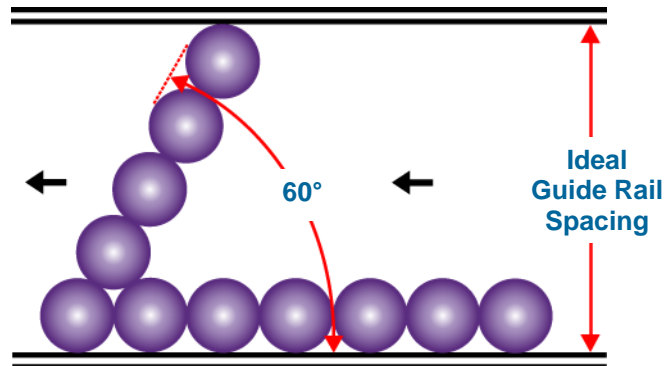
Use the following guidelines when considering the compatibility of the chain and product:

Plastic Chains:

- Soft drink and brewery steel and aluminum can handling conveyor
- Paper container handling
- Plastic container handling

GUIDE RAIL SETTINGS (Round Product)

The ideal guide rail setting provides straight rows of product at 60° to the guide rail.



Determine the guide rail settings with the following formula.

Formula for Guide Rail Settings:

S = Rail Setting

D = Product Diameter

$$S = [(No. of Rows - 1) \times (\sin 60 \times D)] + D$$

Example:

D = 2" No. of Rows = 3

$$S = [(3 - 1) \times (\sin 60 \times 2'')] + 2''$$

$$S = 5.46'' + .125''$$

$$S = 5.59'' \text{ Rail Setting}$$

1/8" should be added to each side for product running clearance

CONVEYOR SPEEDS

When determining the speed of the conveyor, remember that the chain and conveyor components will last longer if you do not run the chain faster than the speed required to properly carry the product and maintain production machine rates.

When conveying product in single file to a production machine, it is common to run the chain approximately 20% over production rates.

Formula for Conveyor Speed Settings:

SS = Speed Setting

D = Product Diameter

PPM = Products Per Minute

FPM = Feet Per Minute

$$SS = (\text{Machine Rate} \div \text{Products per Foot of Chain}) \times 1.2''$$

Example:

D = 3" Machine Rate = 100 PPM

Products per Foot of Chain = 12" ÷ D

$$SS = [100 \div (12'' \div 3'')] \times 1.2''$$

$$SS = (100 \div 4) \times 1.2''$$

$$SS = 25 \times 1.2''$$

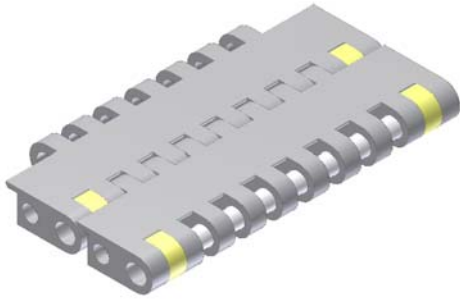
$$SS = 30 \text{ FPM Speed Setting}$$

When high speed packaging machines cause infeed and discharge chains to run at extremely high speeds, it is not practical to run the product single file any longer than required. In such cases, wider chains can be added to slow down the product. Wider chains can also be used for product accumulation.

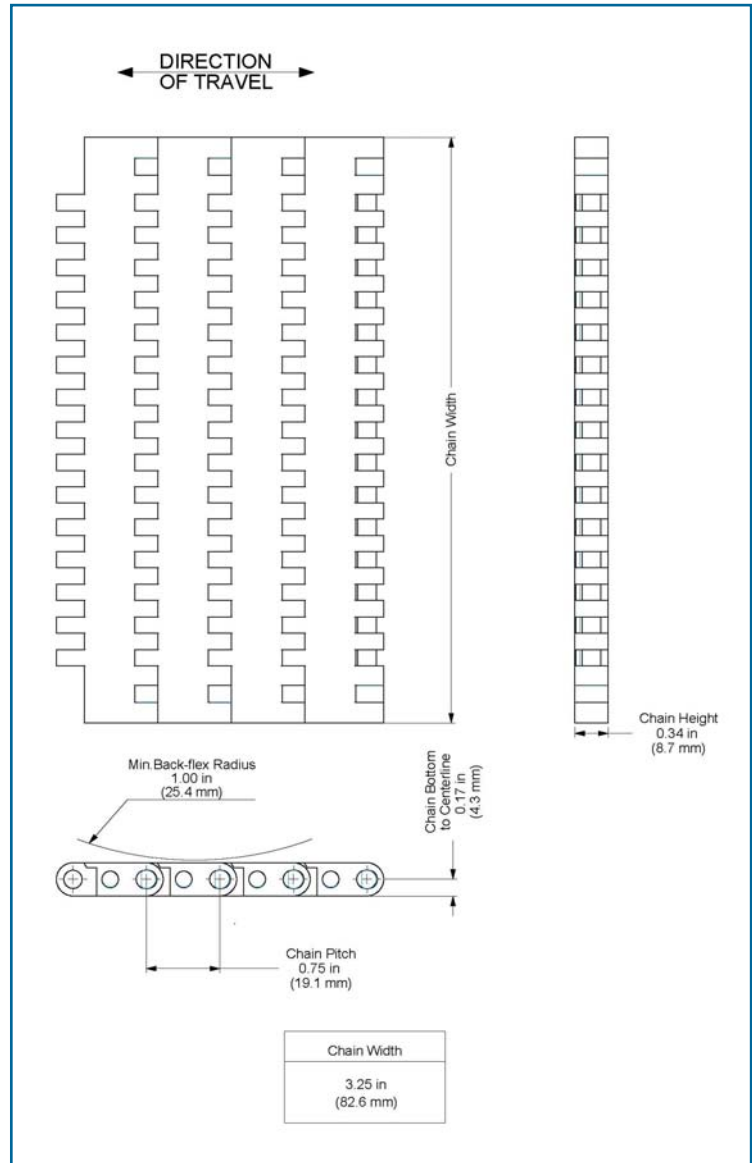
When determining inline accumulation speeds, use the basic speed formula plus a higher percent of increase to allow sufficient accumulation space. Approximately 50% of clear area is required on the conveyor for this type of accumulation.

Mat Top Chain Types and Dimensions

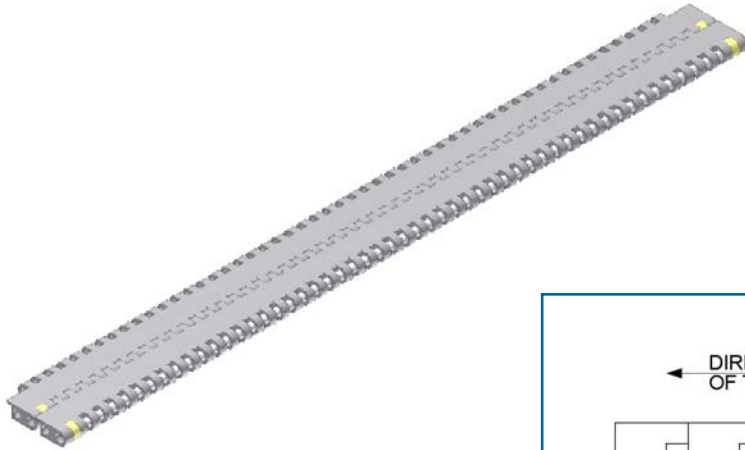
HP8505 MTW CHAIN



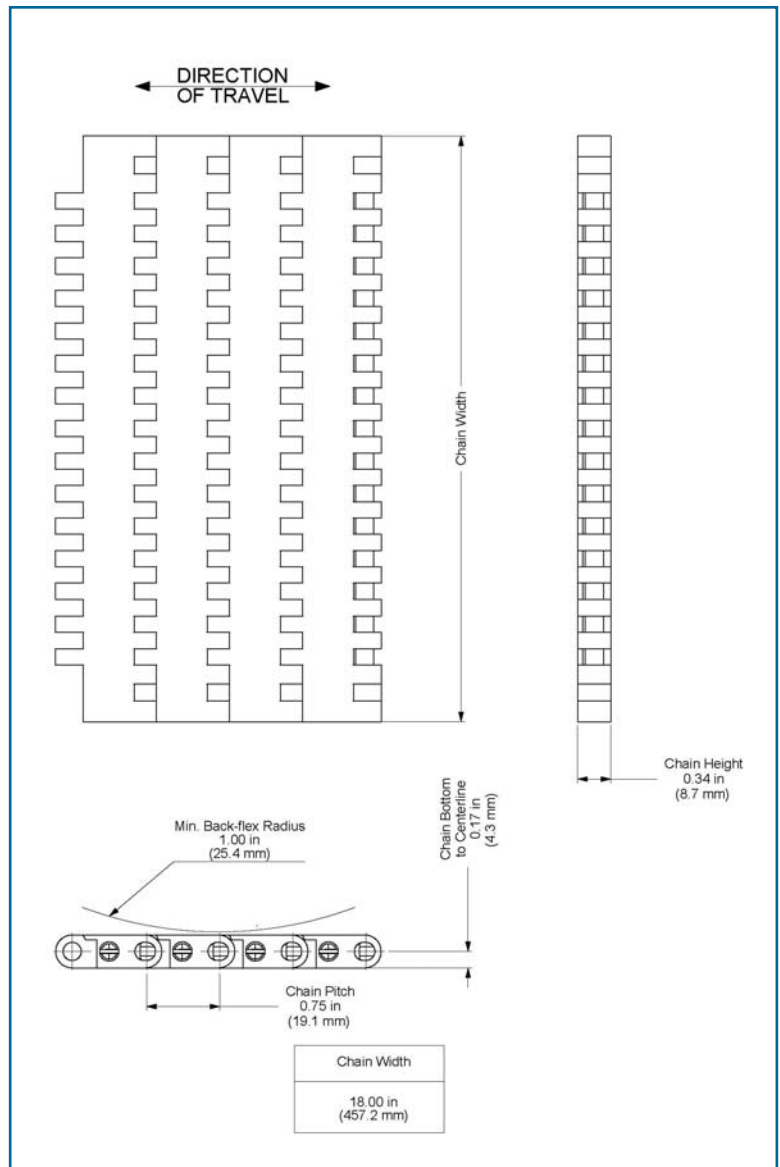
HP8505 Made To Width (MTW) Chain Width	
inches	mm
3.25	82.6
4.5	114.3
7.5	190.5



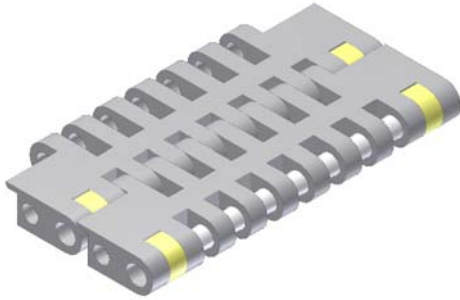
HP8505 STANDARD CHAIN



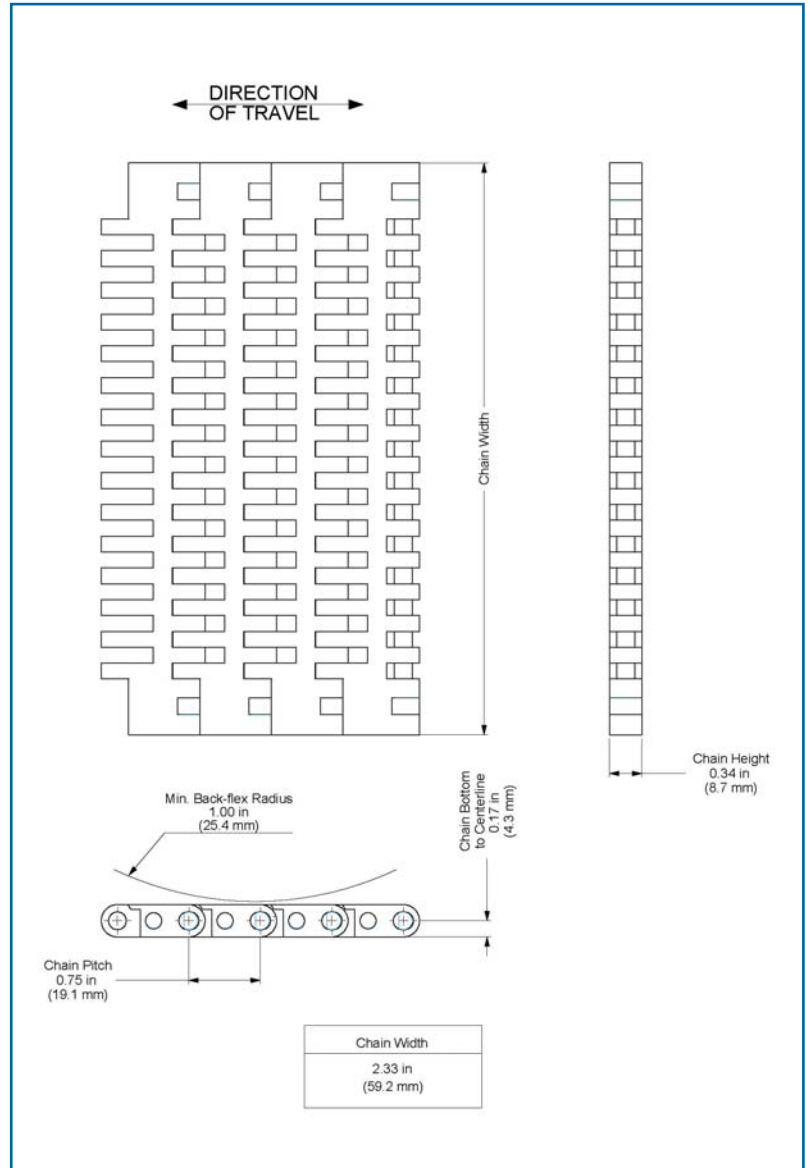
HP8505 Standard Chain Width	
inches	mm
12	304.8
15	381.0
18	457.2
24	609.6



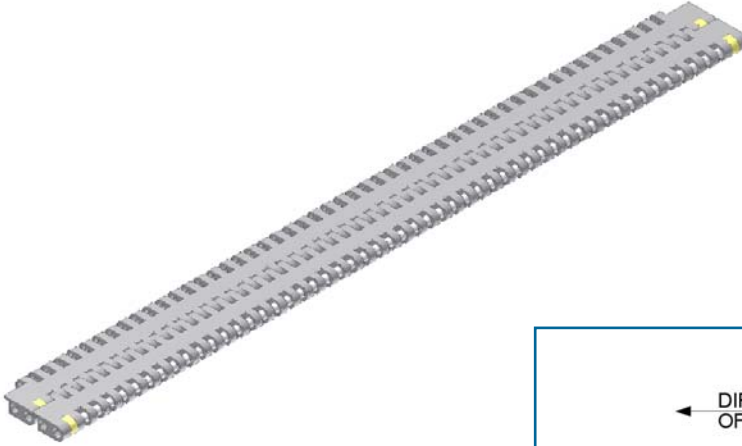
HP8506 MTW CHAIN



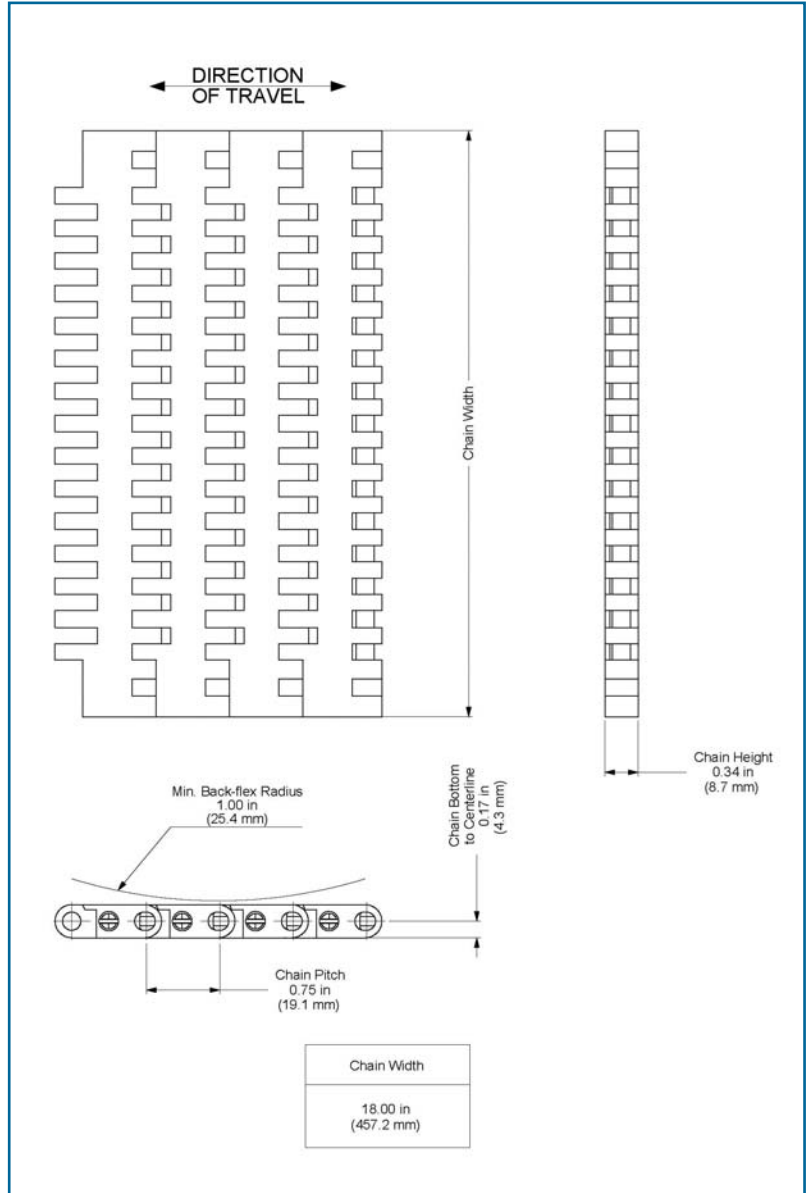
HP8506 Made To Width (MTW) Chain Width	
inches	mm
3.25	82.6
4.5	114.3
7.5	190.5



HP8506 STANDARD CHAIN



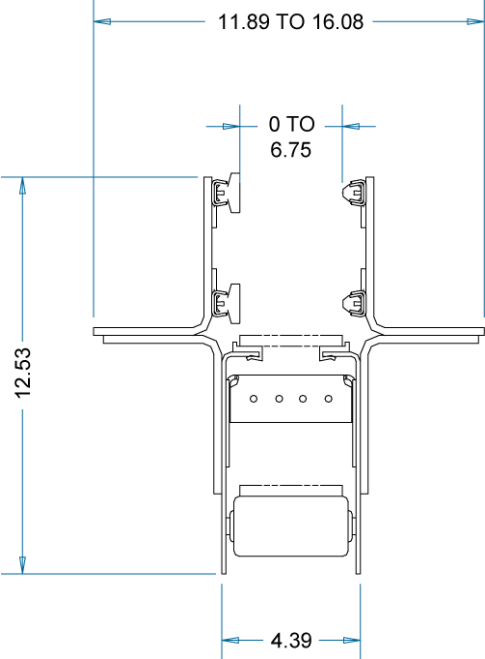
HP8506 Standard Chain Width	
inches	mm
12	304.8
15	381.0
18	457.2
24	609.6



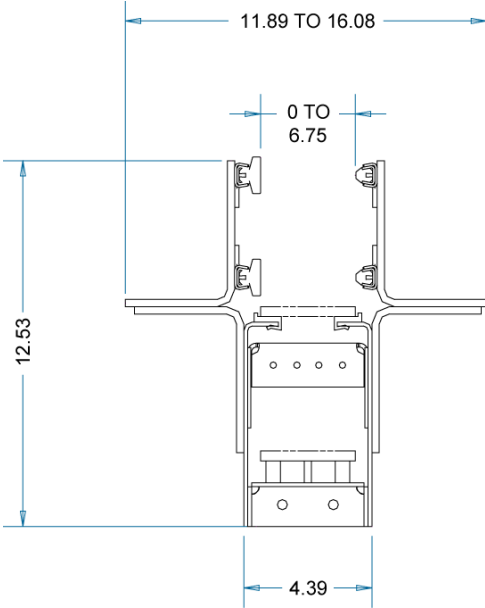
Mat Top Standard Cross-Section Styles and Dimensions

325 RETURNS

325 Roller Return Cross-Section

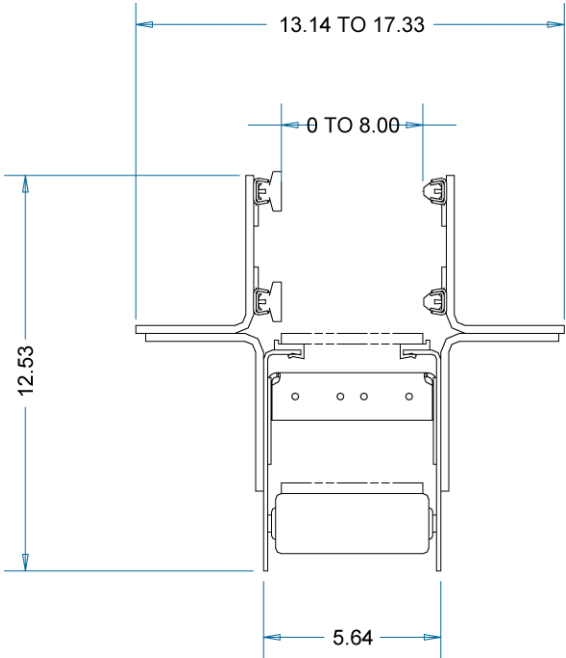


325 Serpentine Return Cross-Section

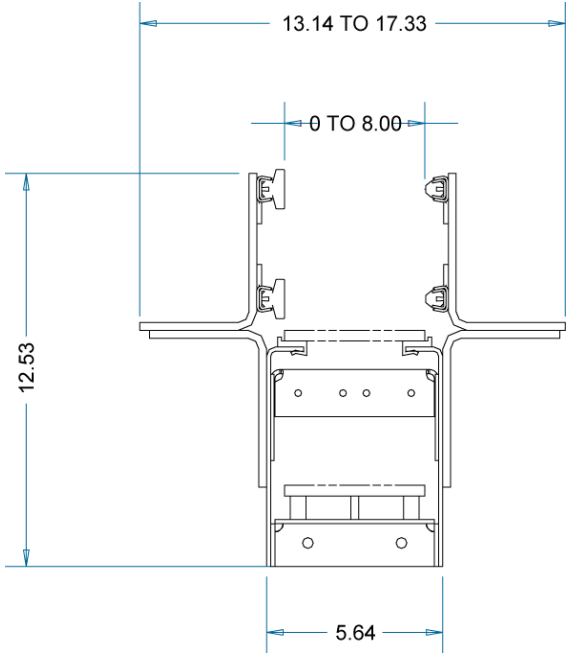


450 RETURNS

450 Roller Return Cross-Section

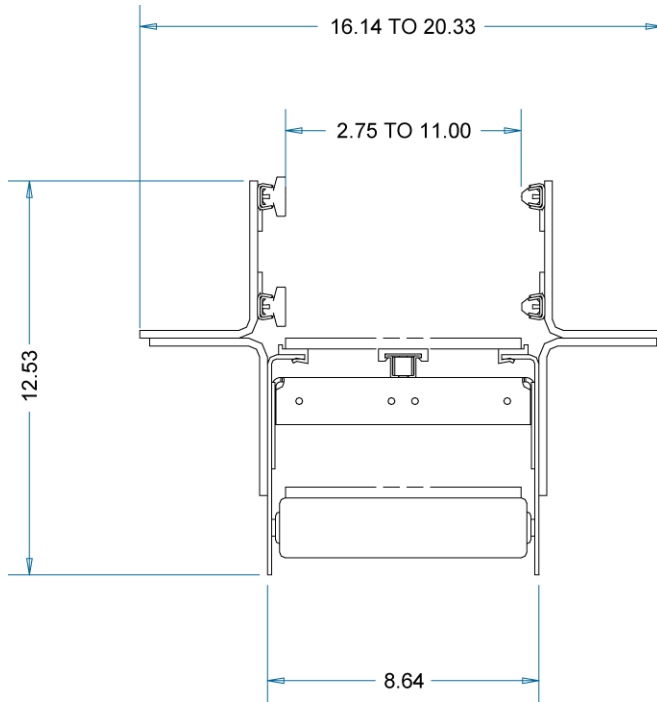


450 Serpentine Return Cross-Section

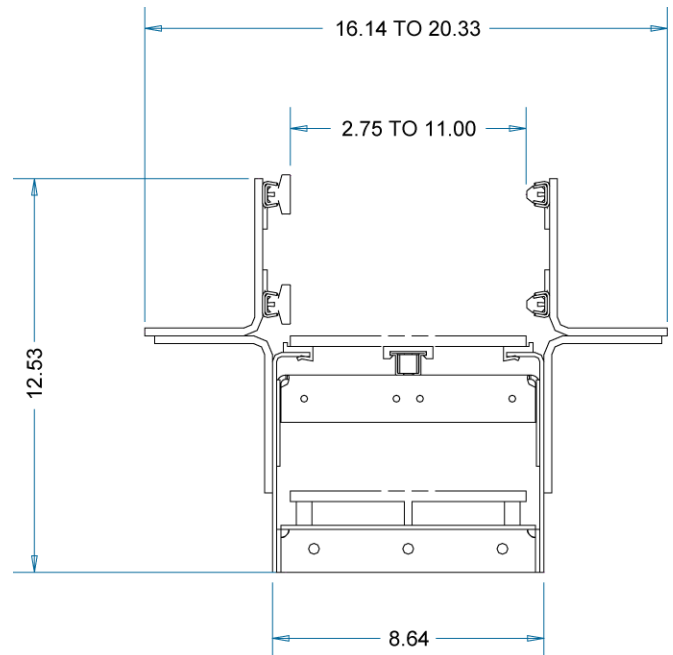


750 RETURNS

750 Roller Return Cross-Section

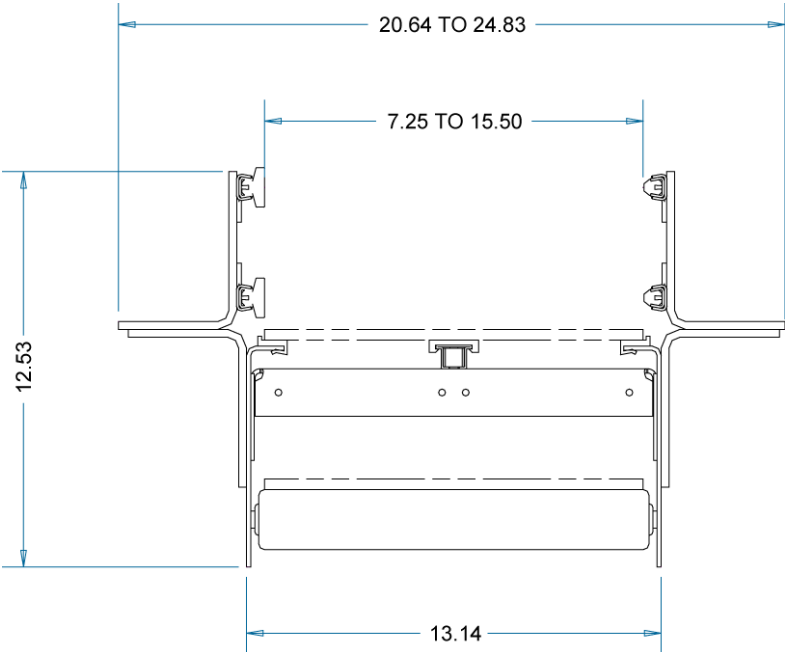


750 Serpentine Return Cross-Section

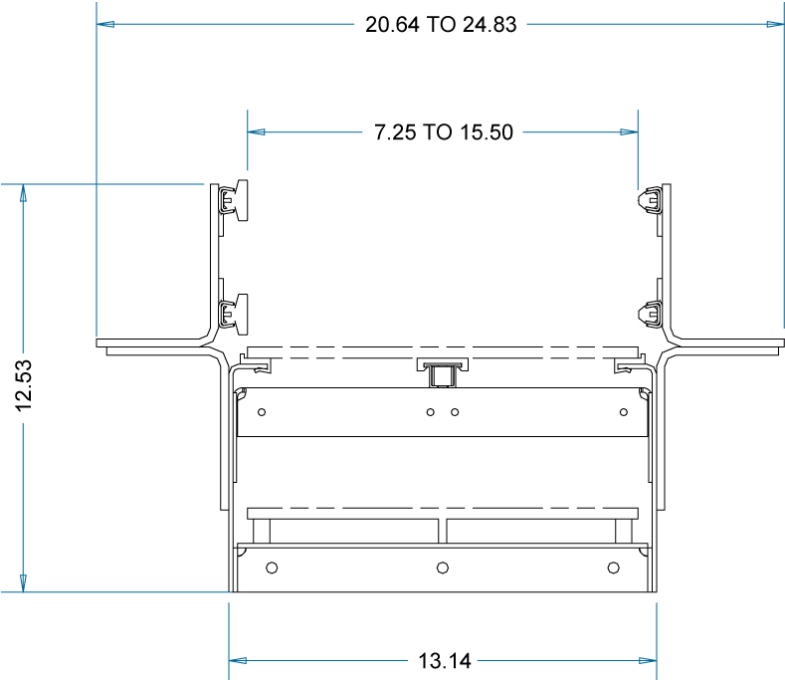


1200 RETURNS

1200 Roller Return Cross-Section

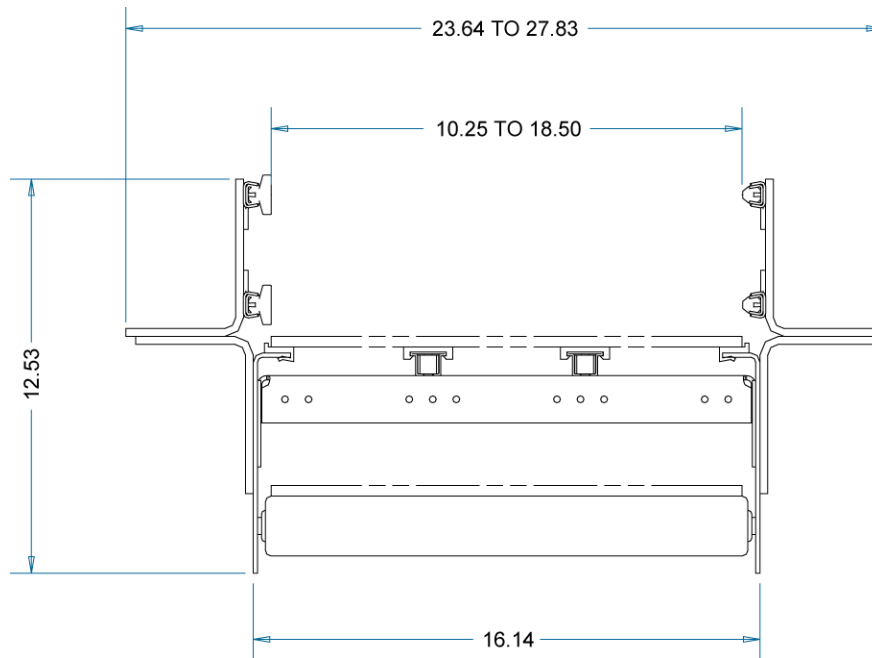


1200 Serpentine Return Cross-Section

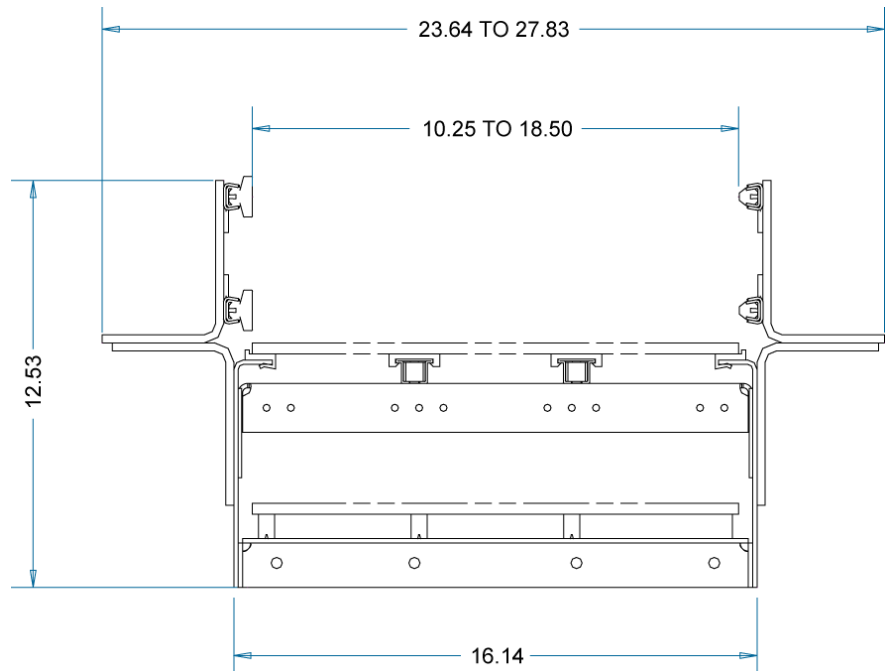


1500 RETURNS

1500 Roller Return Cross-Section

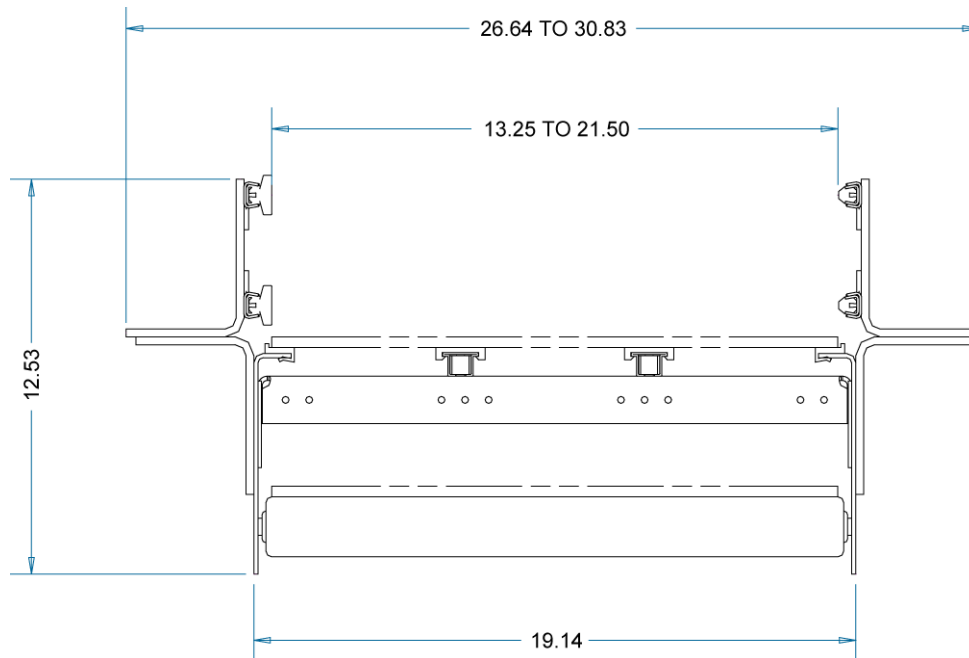


1500 Serpentine Return Cross-Section

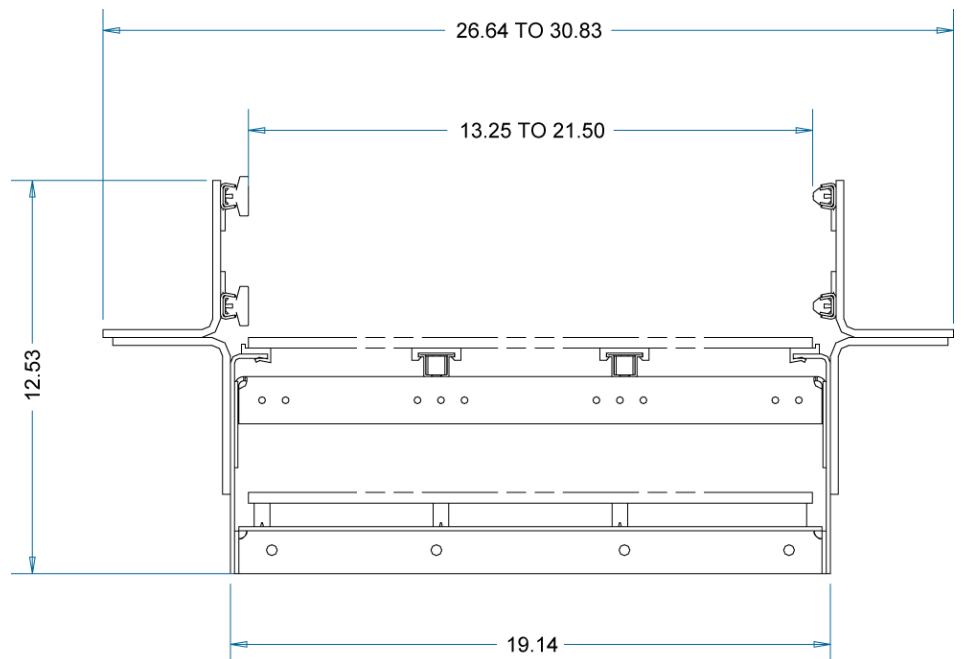


1800 RETURNS

1800 Roller Return Cross-Section

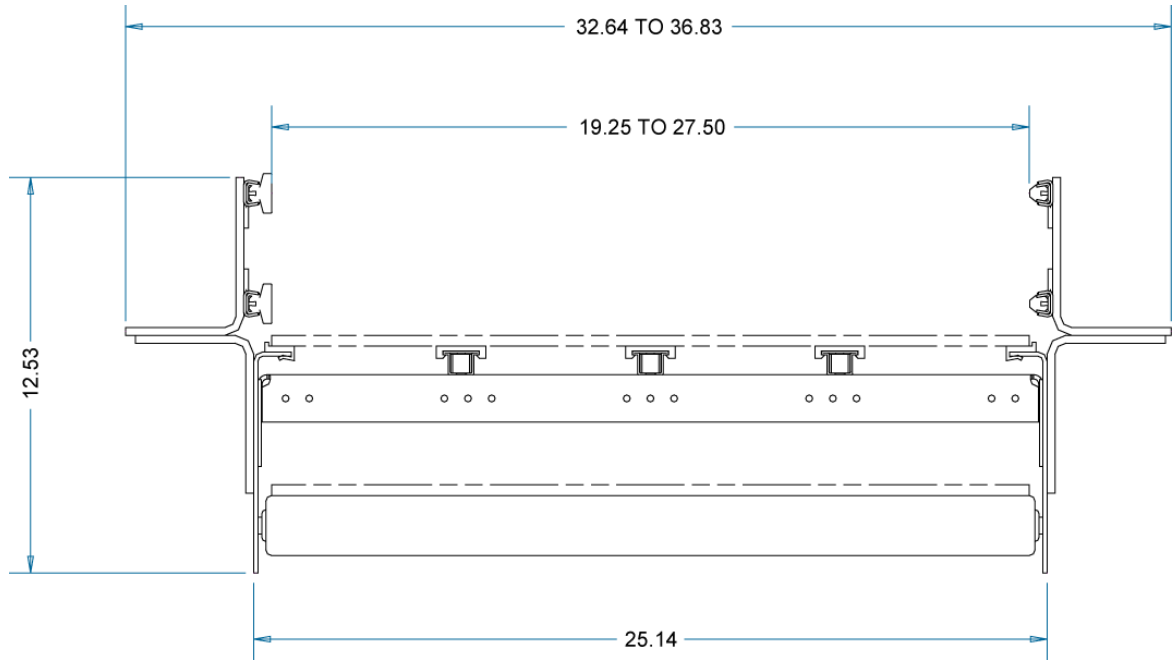


1800 Serpentine Return Cross-Section



2400 RETURNS

2400 Roller Return Cross-Section



2400 Serpentine Return Cross-Section

