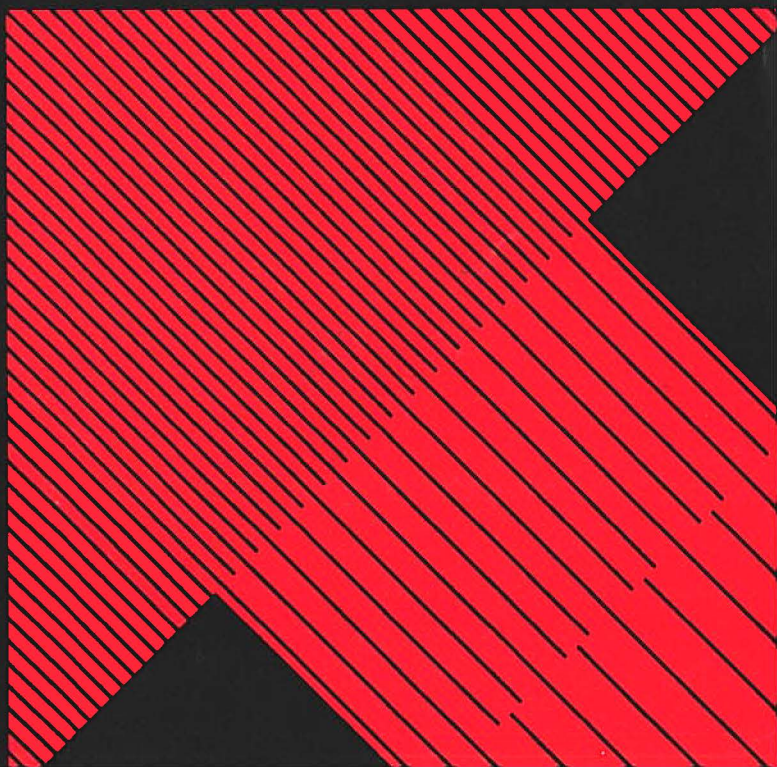


SERPENTIX[®]

CONVEYOR CORPORATION



Simplicity Is Key To Versatility Of Model "I" Serpentix

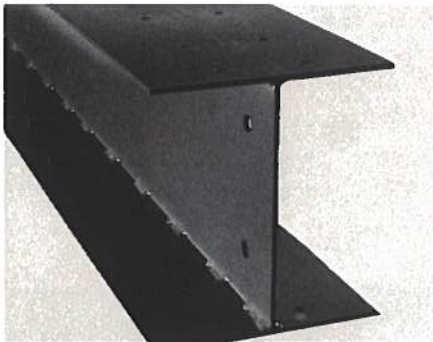
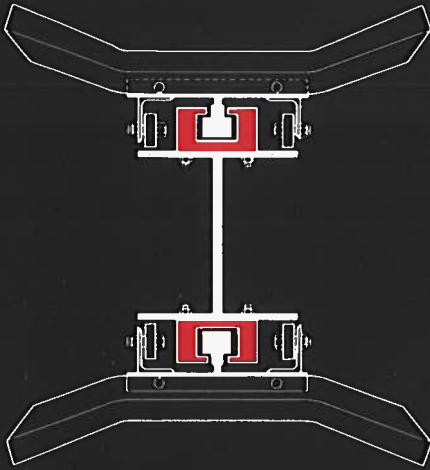
Simplicity in both design and construction is the hallmark of the Model I by Serpentix. A unique GlideEze guide channel combines with a basic I-Beam support structure and dual-flex chain of hardened steel to give industry a low cost, virtually maintenance-free system to convey materials ranging from near liquids up to 12-inch solids. Horizontal and steep vertical and helical turns are possible with the unique Serpentix belt which is both self-cleaning and capable of 180 degree rollovers, permitting it to carry loads in both directions.

Installation of the fully standardized Model I is accomplished with semi-skilled personnel and tools normally found in the average handyman's tool kit. In addition, its design permits field sizing to cope with last minute

engineering design changes and standard modules can increase its length and capability without complex design changes or lengthy waits for ordering of additional sections.

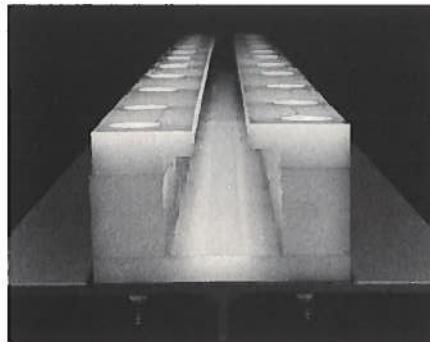
Standard lengths and components make the Model I ideally suited for both quick, easy initial assembly as well as disassembly and adapting to new or different production roles within the plant as manufacturing requirements change.

Maintenance and wear is greatly reduced due to the more simple Model I design and reduction of forces on stress bearing components. The chain pulls, the GlideEze channel guides, the rollers stabilize and the belt carries — simplicity designed to reduce production costs while increasing profits.



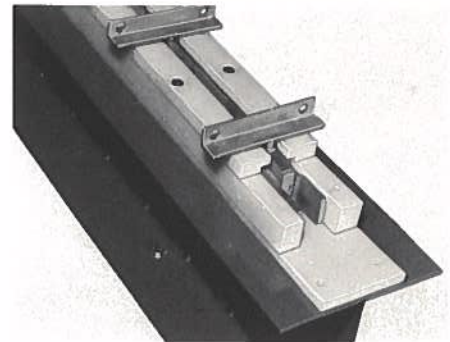
I-Beam Structure

Manufactured in $\frac{3}{16}$ " 7-gauge steel, or stainless steel, the I-Beam comes in five basic lengths from 2 to 10 feet sections. Flanges are pre-drilled with standard, repeating hole patterns for bolting down the GlideEze guide channel. Pre-drilled holes in the web allow for support column and section plate bolts.



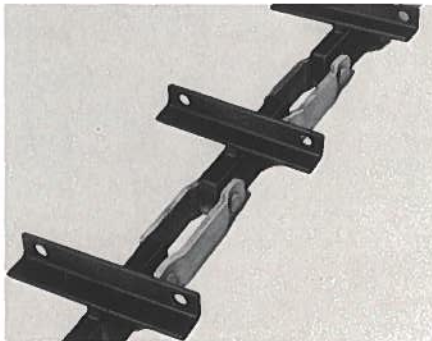
The Guide Channel

The GlideEze guide channel is made of high strength, low wearing low friction Ultra-High Molecular Weight Polyethylene and bolted to both flanges of the steel I-Beam. Although wear is virtually non-existent as the dual-flex chain glides through the channel, components of the GlideEze are easily and quickly replaced in case of damage.



I-Beam And Guide Channel

The dual-flex Model I chain fits in the guide channel with sufficient clearances for quick, quiet and flexible movement. The belt attaches to channel steel plates welded to the chain. Every third plate has 2" diameter rollers (UHMWP) to stabilize the modular belt. The belt never experiences tension — the chain does all pulling via the system's drive station.



Dual-Flex Chain

The Serpentix mono-chain is designed to slide over the low friction surface of the UHMWP GlideEze guide channel. The chain is engineered to fit loosely over the drive station sprocket and in the guide channel to ensure the greatest flexibility in curving and climbing.



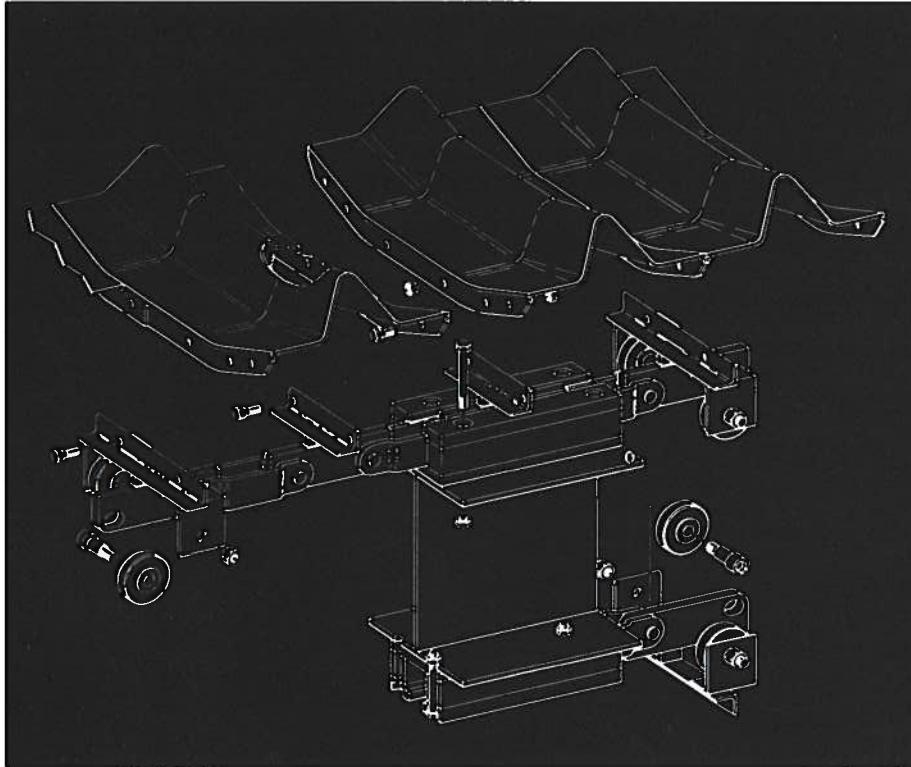
Flexible Belt

The belt is made of rubber pans which join together to form a watertight surface. Each pan has a one and one-half inch high rubber crossfold. Steel, stainless steel or aluminum stiffeners molded into the pans give both sides of the belt a 20-degree troughing angle. This natural cradle allows Serpentix to transport material ranging from near liquids to 12-inch lumps.



Tension Station

The tension station of the Model I reveals full details of the chain fitting over the terminal sprocket. Also shown is how the GlideEze guide channel, chain and rollers interwork with the convoluted belt. The Model I can be equipped with both drive and tension terminals, or a single combination Drive-Tension station.

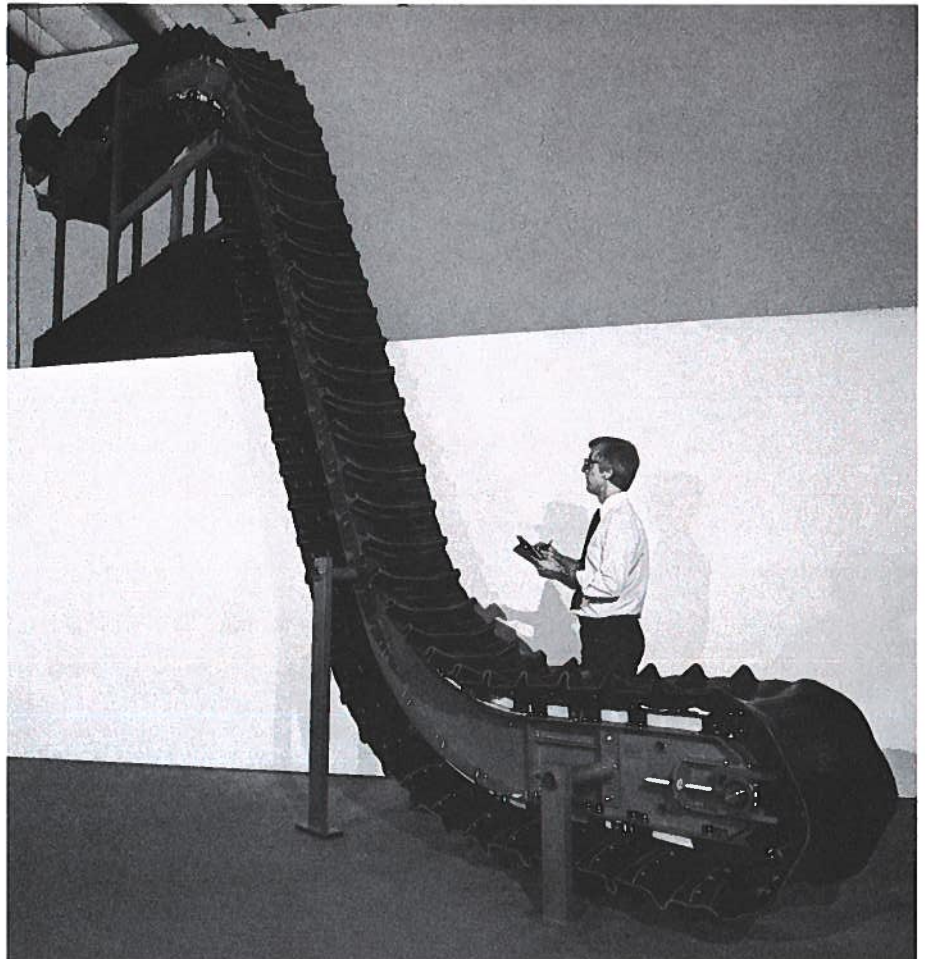
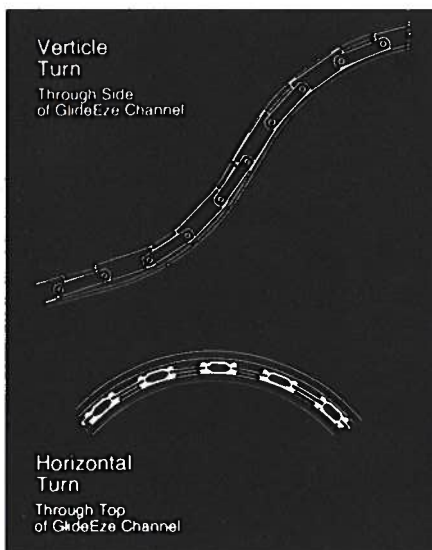


Belt Carries, Climbs and Turns

The Serpentix belt has made it possible to combine the most desirable features of chain conveyors, elevators and conventional belt conveyors into a single system. Its unique, high rubber crossfolds and angled sides let the Serpentix belt carry most materials, regardless of consistency, flowability and size on a surface capable of bending in every plane while making a continuous path. The belt can make horizontal as well as steep vertical and helical turns since the crossfolds compress on the inner side and expand on the outer side when curving. The crossfolds also permit self-cleaning. As the belt passes over the terminal, the folds stretch flat. This allows loose material to fall off naturally, or permits continuous scraping of sticky material.

Guide Channel and Chain Insures Stability, Tracking, Low Maintenance

Positive tracking at all speeds, a highly stable load carrying surface and a maintenance-free, long wearing guide channel are key features of the new Model I Serpentix. The modular Serpentix belt — stabilized by rollers on either side — is attached to a hardened steel, dual-flex chain. Powered by the drive station sprocket, the chain glides (and is guided) through an enclosed Serpentix GlideEze Channel made of Ultra-High Molecular Weight Polyethylene.



Typical Specification For A Serpentix Model "I" Conveyor

General

The conveyor shall have a watertight modular conveying surface having a 20° troughed cross-section. Each modular section shall have a transverse fold that permits the assembled belt to make continuous turns and that will flatten out as the section goes around the terminal, to allow continuous belt scraping for cleaning. The modular sections shall be reinforced with steel or aluminum stiffeners molded into the section to achieve troughing. The conveyor must be able to hold a full load in place on an incline, in the event the conveyor is stopped under full load conditions. Material carried must not spill off the low end of the conveyor surface under the full design load.

Components

The conveying surface will consist of modular belt sections 26" wide, molded of rubber, fastened every 8" and supported by a steel chain. Each modular section will have a transverse fold at least 1½" high, permanently molded into the rubber. All modular sections will be attached to the chain assembly which supports and guides the conveying surface. The 4" pitch chain shall be made of hardened steel, and be guided through a ultra-high-molecular-weight polyethylene guide channel. Every third attachment will have 2" diameter ultra-high-molecular-weight polyethylene rollers to stabilize the modular sections.

Track sections of required length shall be pre-assembled, ready for bolting and field welding where indicated. Curved track will be pre-formed to the required radii. Final assembly of the entire conveyor system may require cutting of two of the track sections and drilling of new bolt holes. That shall be done by the contractor on site.

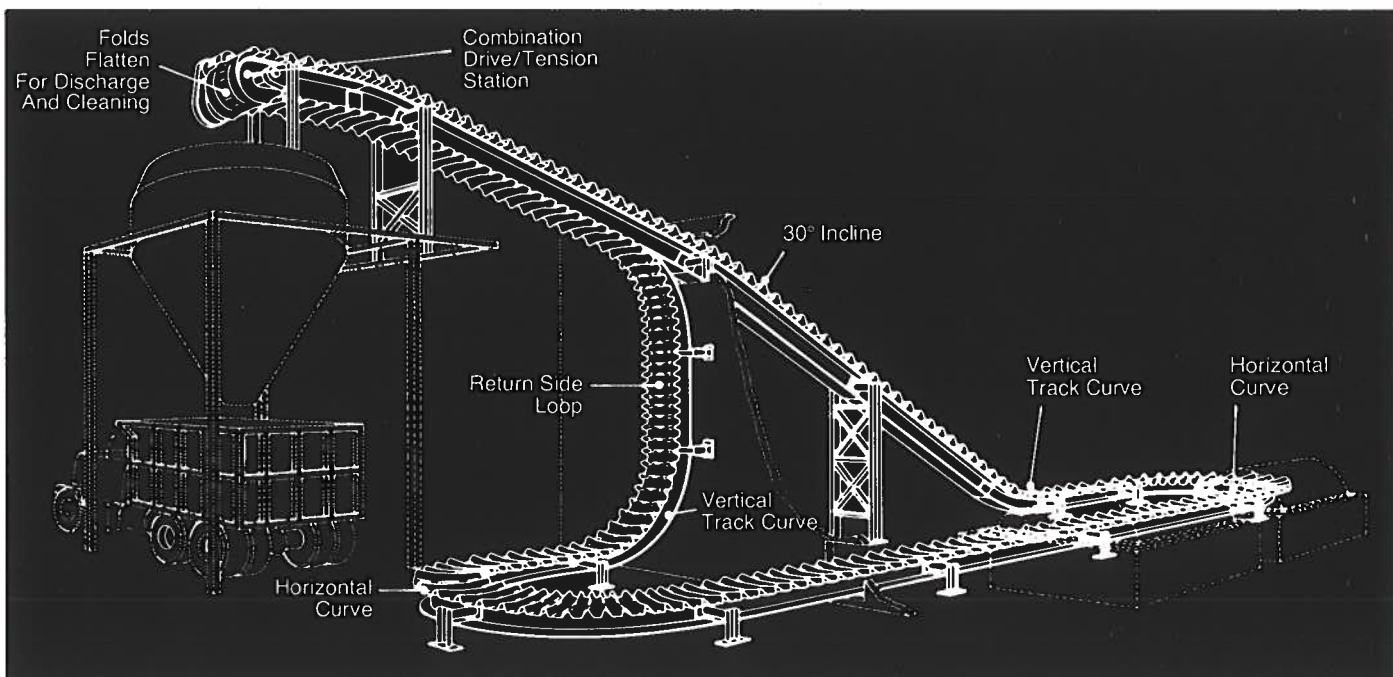
The conveyor track shall be steel and all structural steel members shall conform to ASTM designation A-36. All shop welding shall conform to the latest standards of the American Welding Society. All nuts, bolts and washers shall be zinc or cadmium plated. The tension station shall consist of a tail sprocket, take-up unit, and track all mounted in a structural frame and ready for installation. The drive station shall consist of a TEFC motor, gear reducer, V-belt, sheaves, and sprocket which in combination gives the proper belt speed for the load indicated. Optional: A torque overload device shall be provided. Optional: An adjustable scraping mechanism to constantly remove material from the conveying surface shall be provided at the discharge end.

Installation

Assembly and erection of the conveyor shall be in accordance with the manufacturer's instructions, approved shop drawings and applicable sections of these specifications.

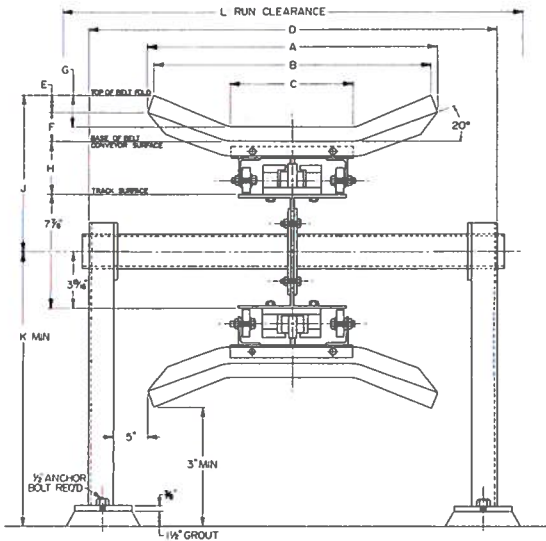
Painting

The conveyor and supports shall be shop painted with a rust-resisting primer with the exception of the motor gear reducer and machined surfaces. The equipment shall be field painted as scheduled.



Model "I" Engineering Data

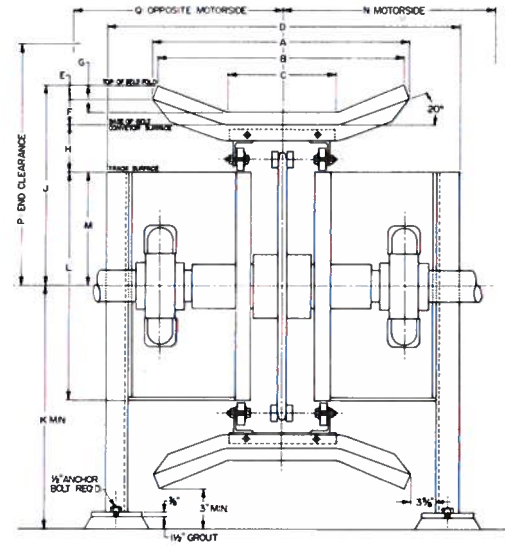
Standard Profile Cross Section Dimensions



BELT WIDTH	Conveyor Dimension										
	A	B	C	D	E	F	G	H	J	K	L
16"	16"	14 3/4"	8"	29 1/4"	1 3/8"	1 7/8"	2 1/8"	3 3/16"	11"	14"	32"
20"	20"	18 1/4"	9 1/4"	33 3/4"	1 3/8"	2 1/8"	3 3/16"	3 3/16"	11"	14"	36"
26"	26"	24 1/2"	11 1/16"	39 1/4"	2"	2 1/16"	3 3/16"	3 3/16"	12 1/16"	15 1/16"	42"

Standard Profile Of Drive And Tension Stations

Cross Section Dimension



32
20
52 H

BELT WIDTH	Conveyor Dimensions														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
16"	16"	14 3/4"	8"	29 1/4"	1 3/8"	1 7/8"	2 1/8"	3 3/16"	16 1/8"	19 1/16"	18"	9"	48"	32"	18"
20"	20"	18 1/4"	9 1/4"	30 1/2"	1 3/8"	1 7/8"	2 1/8"	3 3/16"	16 7/16"	19 1/16"	18"	9"	48"	32"	18"
26"	26"	24 1/2"	11 1/16"	38 1/4"	2"	2 1/16"	3 3/16"	3 3/16"	17 3/8"	20 3/8"	18"	9"	48"	32"	21"

STANDARD DRIVE STATION CROSS SECTION DIMENSIONS

BELT WIDTH	Conveyor Dimensions														
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
16"	16"	14 3/4"	8"	29 1/4"	1 3/8"	1 7/8"	2 1/8"	3 3/16"	14 9/16"	17 1/16"	15"	7 1/2"	32"	30"	18"
20"	20"	18 1/4"	9 1/4"	33 3/4"	1 3/8"	1 7/8"	2 1/8"	3 3/16"	14 9/16"	17 1/16"	15"	7 1/2"	32"	30"	18"
26"	26"	24 1/2"	11 1/16"	39 1/4"	2"	2 1/16"	3 3/16"	3 3/16"	15 7/8"	18 3/8"	15"	7 1/2"	32"	30"	21"

STANDARD TENSION STATION CROSS SECTION DIMENSIONS

Typical Belt Capacity

Flow Characteristics		Very Free Flowing	Free Flowing	Average Flowing		Sluggish
Angle Of Repose		0°-20°	20°-30°	30°-35°	35°-40°	40°-UP
Surcharge Angle		0°- 5°	5°-10°	10°-20°	20°-25°	25°-30°
*Recommended Maximum Incline		20°-30°	30°-40°	30°-40°	35°-45°	45°
Type Material		Dry Sand Wet Concrete	Whole Grain Beans Sludge	Coal Fertilizer Clay	Stone Coal Ore	Wood Chips Foundry Sand
16" BELT	Cubic Feet Per Hour at	259	388	518	604	648
20" BELT	50 Feet Per Minute	324	486	648	756	810
26" BELT	Belt Speed	421	631	842	982	1053

*CONSULT MANUFACTURER FOR MAXIMUM INCLINE

Standard Vertical Curves (Measured to Centerline of Track) 4 Feet, 6 Feet, and 12 Feet Radius
 Standard Horizontal Curves (Measured to Centerline of Track) 6 Feet and 12 Feet Radius

Accessories

- Belt Scrapers
- Covers
- Drip Pans
- Drip Pans Spray Washer
- Discharge Head Box
- Variable Speed
- Soft Start
- Overload Protection
- Safety Hold Back For The Chain
- Intermediate Drive
- Pull Cord Switch
- Zero-Motion Switch
- Buckets And Flight Plates
- Side Plates

Belting Material

- SBR
- Neoprene
- EPDM
- Conductive Rubber

Serpentix Conveying Features Designed For Industry

1. Makes horizontal as well as vertical and helical turns.
2. Need not terminate to change direction.
3. Eliminates need for multiple conveyors.
4. Corrosion and contamination minimized since only the belt surface is normally exposed to product conveyed.
5. Folds permanently molded into belt - act like flight conveyor for steep inclines.
6. No material rollback, no cleanup problems since folds hold material on inclined surface if conveyor stops under full load.
7. Belt, chain and rollers move together to allow servicing at one convenient point - no catwalks required.
8. Tracks dependably at even slowest speed.
9. Features continuous conveying surface, eliminating intermediate transfers.
10. Can curve around corners and under, over, or around obstructions.
11. Standard belt surface permits inclines or declines up to 45 degrees.
12. Open belt not affected by inconsistency of material conveyed.
13. Permanent belt troughing allows transport of material ranging from near liquid to solids.
14. Belt is self-cleaning since folds flatten at terminal to permit continuous scraping — a unique feature.
15. Simplifies maintenance because inspection and servicing is possible at any convenient point.
16. Belt makes 180 degree rollover to return the belt surface to the load carrying position so it can convey in both directions.

For More Information
Call



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