



CONVEYX
SOLUTIONS, LLC

GRAVITY SKATEWHEEL FLEX CONVEYOR

INSTALLATION, OPERATION & MAINTENANCE MANUAL

PLEASE REVIEW MANUAL BEFORE OPERATING EQUIPMENT



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GENERAL OVERVIEW

ConveyX Solutions, LLC (CXL) Gravity Skatewheel Flex Conveyor has a rugged design for high volume unit handling applications with capacity of up to 400 pounds per linear foot. The conveyor can expand, contract, flex and move to fit the needs of every operation. The Gravity Skatewheel Flex Conveyor can be used as stand-alone or in conjunction with other conveyor systems. This portable and durable conveyor delivers optimal utility and versatility for distribution centers and retail stores, as well as manufacturing, assembly and processing facilities.



Features:

- Flexible design makes this conveyor ideal for packing, shipping/receiving and temporary assembly lines
- Easily move, re-position and compress to optimize floor space
- Free-spinning wheels allow products and packages to be moved manually with minimal effort
- Load capacity – up to 400 lbs per linear foot
- Adjustable legs to meet a variety of height requirements for the proper material flow
- Includes swivel casters with brakes on every other leg for easy transport



PRODUCT SPECIFICATIONS

GENERAL

Conveyor Bed Width	18", 24", 30", 36"
Conveyor Extended Length	8', 12', 24', 30', 32', 40', 60'
Compressed Length	Varies; determined by the center to center distance of the skatewheels; see REFERENCE CHART
Conveyor Height	26" to 34", 32" to 40" or 38" to 46" TOW; extended and custom elevation ranges available, consult factory
Capacity	Max 400 pounds per linear foot (PLF); varies by conveyor width
Centers	3", 4" or 5"

REFERENCE CHART

(EXPANDED)		
Skatewheel CC	Zone Length	Compression Ratio
3"	24"	2.3:1
4"	32"	3.1:1
5"	40"	3.9:1

MATERIALS

Casters	5", 6" or 8" swivel casters with lockable brakes
Sidelinks	8 ga. galvanized steel
Leg Supports	12 ga. structural tubing
Skatewheels	Galvanized steel or nylon skatewheel material
Options	Custom sizes available, consult factory

ACCESSORIES

Floor Guide	Move the Flex Conveyor in and out of storage with ease
Side Guides	Guides are 4" tall covering up to two zones of the conveyor made of heavy-duty UHMW polyethylene
Impact Cart	Inserted at infeed end of the conveyor, it is designed to handle package impact reducing the need for continual repairs to the conveyor
Transition	Available in Centering and Straight options and assist in moving packages from the feed line to the Flex Conveyor. The Centering option also aligns packages toward the center of the Flex Conveyor

WARNINGS AND SAFETY INSTRUCTIONS

Failure to follow the instructions and cautions throughout this manual and warning labels on the conveyor, may result in injury to personnel or damage to the equipment.

Special attention must be paid to the following areas of this manual:



ENVIRONMENTAL STANDARDS

ConveyX Solutions, LLC (CXL) equipment is designed to be installed in a clean, dry environment. Exposure to extreme humidity, direct sunlight, blowing dirt or rain can permanently damage some components and equipment. Concrete curing agents are also known to attack and degrade the urethane conveyor components. Be sure that the concrete is properly cured at new sites before setting the conveyor on it and that proper ventilation is used to prevent curing agent fumes from impacting the conveyor. Equipment should be stored under cover to protect it from exposure to the weather and other adverse conditions from the dock door to the truck entrance. Failure to comply with these guidelines will void the warranty on any failed components that result from these environmental issues.

ANSI STANDARDS FOR CONVEYORS

It is essential for safe and efficient system operation that the safety information and guidelines presented here are properly understood and implemented. The American National Standard Institute (ANSI) booklet entitled Safety Standards for Conveyors and Related Equipment, for more information contact <https://webstore.ansi.org>.

With any piece of industrial equipment, conditions exist that might cause injury to workers. Because it is not possible to describe each potentially hazardous situation that might develop, workers must be alert at all times for unsafe conditions. To avoid injury, use maximum possible care and common sense and adhere to all safety standards.

Take special care while maintaining and inspecting electrical equipment and devices. All personnel working on or around the system should be aware of, and adhere to all CAUTION, DANGER and WARNING signs.

Labels or signs are posted to reduce the risk of injury to all personnel. Never assume that the signs and notices are applicable only to inexperienced personnel. Maintain signs in a legible condition. Contact a supervisor to post additional safety signs if necessary.

ANSI CONVEYOR SAFETY RULES

Below are the conveyor safety rules, as well as specific regulations and guidelines listed in this publication:

- DO NOT touch moving Conveyor parts.
- DO NOT walk, ride or climb on the Conveyor.
- DO NOT operate the Conveyor with chain guards or other protective guards removed.
- Keep jewelry, clothing, hair, etc., away from the Conveyor.
- Know the location and function of all start/stop devices and keep those devices free from obstruction.
- Clear all personnel from the equipment before starting the Conveyor.
- DO NOT attempt to clear product jams while the Conveyor is running.
- Allow only trained and authorized personnel to maintain or repair Conveyor equipment.
- DO NOT load the Conveyor beyond specified design limits.
- DO NOT attempt to make repairs to the Conveyor while it is running.
- DO NOT modify equipment without checking with the manufacturer.

- DO NOT operate or perform maintenance on equipment when taking any type of drug or sedative, when under the influence of alcohol or when over-fatigued.
- Report any unsafe condition to your supervisor or maintenance staff.

CEMA STANDARDS FOR CONVEYOR

The Conveyor Equipment Manufacturers Association (CEMA) provides safety information related to conveyor systems. To learn more about CEMA visit website, www.cemanet.org.

CEMA produces various Conveyor safety videos and posters, and it is recommended that the videos be made available for training and education purposes as part of a safe working environment around conveyor equipment. The videos introduce awareness of operations, personnel, maintenance technicians and safety hazard management commonly associated with the automated material-handling conveyor equipment.

The safety posters review important safety labels and are intended to be posted in public places as a day-to-day reinforcement of good safety practices. These posters can be downloaded from the CEMA website at: <http://www.cemanet.org/safety-label-posters>.

SAFETY INSTRUCTIONS



- Move conveyor only by grasping the handles located on the sides or at the end of the conveyor.
- When expanding or compressing your conveyor, keep hands, clothing and other items clear of the sidelinks.
- Do not exceed the conveyor load capacity, as it may result in possible operator injury or conveyor damage.
- Avoid wearing excessively loose clothing when working with moving equipment.
- Keep long hair pulled up to prevent it from becoming caught in moving parts.
- Broken or worn parts must be replaced immediately.

INSPECTING THE EQUIPMENT



WARNING

Follow all proper safety precautions and plant installation procedures.

If you find any damage to the conveyor upon inspection contact the factory.

- 1) Unpack the Gravity Skatewheel Flex Conveyor and inspect for any possible damage that may have occurred during shipping.
- 2) Check the end handle for damage by lifting to unlatch and then re-latch to a secure position. If there is binding or difficulty moving the handle from latch to unlatch and then re-latch, the handle may be damaged, contact the factory.
- 3) Inspect the sidelinks of the Conveyor for damage during shipping. If the sidelinks are damaged, the Conveyor will not move properly and needs to be repaired prior to operation. Contact the factory for parts and further instruction.
- 4) Inspect the skatewheels and skatewheel axles to ensure the axles are not bent or damaged during shipping. If the wheels or axles are bent, the conveyor will not move product or operate properly resulting in poor performance. Contact the factory for further instruction.
- 5) Inspect each leg to ensure that the height adjustment pins are securely in place. Missing pins will prevent the Conveyor from moving properly and will result in damage to the Conveyor. Missing pins should be located and replaced prior to movement and installation.



Figure 4: Height adjustment pin

- 6) Inspect the casters and legs to ensure no damage occurred during shipping. Check all welds and attachments to the Conveyor. If the casters are damaged, then the Conveyor will not move properly, which will result in damage to the Conveyor. The Conveyor will need to be repaired. Contact the factory for parts and further instruction.
- 7) Inspect the Conveyor to ensure all yellow handles are secured in the proper location. The Conveyor will have a pair of yellow handles, one on each side of the Conveyor for each zone, to assist with safe positioning of the Conveyor. The exact number of handles will vary depending on the zone quantity and length of the Conveyor.

INSPECTION CHECKLIST

The checkboxes below ensure all items have been inspected for safety:

✓	Chart Reference	Description
	①	Yellow handles in place, not bent. Check each zone and each side of the conveyor.
	②	Side links are not bent
	③	Casters and legs secure, not bent, and no missing parts
	④	Handles are not bent. Handles unlatch and latch without binding
	⑤	Skatewheel axles are not bent
	⑥	Height adjustment pins in place on each leg



Figure 5: Full view, Gravity Skatewheel Flex Conveyor

OPERATING INSTRUCTIONS



WARNING

Conveyor must be installed in accordance with all local, city, state and national code. Make certain that all uninvolved personnel are clear of the working area.

Prior to operating the conveyor, be sure to follow all inspection and installation instructions.

NOTE

Do not exceed the rated capacity of the conveyor 400 (181 kg) per linear foot. Overloading the conveyor could cause damage to the conveyor or components and could void the equipment warranty.

Moving the conveyor

When maneuvering the Gravity Skatewheel Flex Conveyor into position, always use the yellow handles attached to the legs of the conveyor or the end handles. When using the end handles, ensure that the handle is fully seated into position prior to applying force. Apply horizontal or slightly downward force to move the conveyor. Do not use an upward force.

Once the conveyor has been extended and positioned as desired, lock the caster brakes to maintain that position. As loading progresses, release the brakes to reposition the conveyor as needed.

NOTE

Keep all persons and objects away from the scissor sidelinks to avoid pinch points.

Expanding the conveyor

Expand the Gravity Skatewheel Flex Conveyor using the yellow handles attached to the legs of the conveyor or the end handles. When using the end handles, ensure that the handle is fully seated into position prior to applying force. Apply horizontal or slightly downward force to move the conveyor. Do not use an upward force.

Once the conveyor has been expanded and positioned as desired, lock the caster brakes to maintain that position. As loading progresses, release the brakes to reposition the conveyor as needed.

NOTE

Do not over stretch the conveyor beyond the natural limit.

Collapsing the conveyor

Collapse the Gravity Skatewheel Flex Conveyor using the yellow handles attached to the legs of the conveyor or the end handles. When using the end handles, ensure that the handle is fully seated into position prior to applying force. Apply horizontal or slightly downward force to move the conveyor. Do not use an upward force.

When collapsing the conveyor, allow the conveyor to be in a relaxed state. Avoid tightly compressing the conveyor such that the skatewheels come into contact with each other.

Bending the conveyor

Bend the Gravity Skatewheel Flex Conveyor using the yellow handles attached to the legs of the conveyor or the end handles. When using the end handles, ensure that the handle is fully seated into position prior to applying force. Apply horizontal or slightly downward force to move the conveyor. Do not use an upward force.

When flexing the conveyor into curved formations, allow the conveyor to bend naturally. Do not force the conveyor into curves that place stress on the sidelinks or cause the skatewheels to touch at the inside of the curve.

NOTE

Impact loading or dropping packages is not recommended for the Gravity Skatewheel Flex Conveyor and can cause damage to the conveyor and/or its components that could void the equipment warranty.

GENERAL PREVENTATIVE MAINTENANCE

Periodic maintenance intervals shown may vary with load, speed, hours of daily operation, ambient temperature, humidity, etc. Intervals can be established by fairly frequent maintenance at first; then lengthen the intervals as justified by observation of need based on history. The following is based on 5 days per week, 8 hours per day under normal conditions.



- **Prohibit riding on conveyor by anyone.**
- **Think before making any adjustments. It may prevent an injury. Remember, all moving components are potentially dangerous.**

Follow general maintenance safety procedures and review safety material prior to performing maintenance on any equipment.

Regular inspections are recommended by the manufacturer for the Gravity Skatewheel Flex Conveyor to ensure proper operation of mechanical, and safety systems.

DAILY MAINTENANCE

- Listen to everything for unusual noises or vibration.
- Visually inspect to see that Conveyor sections are clear and free of debris.
- Inspect skatwheels for wear.
- Inspect for loose fasteners or missing parts.

WEEKLY MAINTENANCE

- Check all warning labels are still legible and properly placed.
- Check skatewheel screws are tightened, replace any missing screws.

MONTHLY MAINTENANCE

- Inspect casters and caster mounts for damage and/or missing parts.
- Inspect wheels to ensure they rotate freely.
- Inspect axles for any wear

WARRANTY STATEMENT

The Seller warrants that the Equipment will be free of defects in workmanship and material (if properly installed, operated and maintained) for a period of one year or 2080 hours of use, whichever is sooner, from date of shipment to Customer, subject to the limitations hereunder set forth. If within the one year warranty period, the Seller receives from the Customer written notice of any alleged defects in the Equipment and if the Equipment is not found to be in conformity with this warranty (the Customer having provided the Seller a reasonable opportunity to perform any appropriate tests thereon) Seller will, at its option, either repair the Equipment or supply a replacement therefore.

The Seller under either option shall have the right to require Customer to deliver the Equipment to Seller's designated service center and the Customer shall pay all charges for in-bound and out-bound transportation and for services of any kind, diagnostic or otherwise, excepting only the direct and actual costs of repairing or replacing the Equipment. If after reasonable effort the Seller cannot correct said deficiencies, the Seller will make an equitable price adjustment based on actual performance, provided that such adjustment shall under no circumstances exceed the purchase price. The Seller further warrants that the parts, and components supplied by the Seller and forming a part of the Equipment will be free from defects in material and workmanship for a period of one year or 2080 hours of use, whichever is sooner, from date of shipment to the Customer. The Seller's liability shall be solely limited to the supplying of replacement parts and materials.

For a copy our full warranty included in our Terms and Conditions of Sale, contact ConveyX Solutions, LLC.

RETURN AUTHORIZATION PROCEDURES

If the component in question is included in the replacement parts package, the following procedure will apply:

- Identify the part number from the manual
- If part is indicated as wear part
 - Replace the damaged or defective part from parts inventory
 - Order additional parts as required
- If the part is indicated as a warranty part
 - Replace the damaged or defective part from parts inventory
 - Contact ConveyX Solutions, LLC for a Return Merchandise Authorization (RMA) number
 - Have conveyor serial number available when contacting CXL.
 - Send the part to the following address

ConveyX Solutions, LLC.
2380 US 23 South
Docks C, D, E
Alpena, MI 49707
 - Include the conveyor serial number and RMA number on the packaging and the packing slip
 - CXL will inspect the part and make a warranty determination
 - If the part is under warranty, CXL will...
 - Ship a replacement to Customer to replenish parts stock
 - Issue a credit for the freight

If the component in question is not included in the replacement parts package, the following procedure will apply:

- Identify the part number from the manual
- Contact CXL for an initial review to establish if part is covered under warranty and to provide a quote if needed.
 - Have conveyor serial number available when contacting CXL
- Issue a purchase order for a replacement part
- CXL will issue a Return Merchandise Authorization (RMA) number for the part to be returned.
- Send the part to the following address

ConveyX Solutions, LLC.
2380 US 23 South
Docks C, D, E
Alpena, MI 49707
- Include the conveyor serial number and RMA number on the packaging and the packing slip
- CXL will inspect the part and make a warranty determination
- If the part is under warranty, CXL will Issue a credit to Customer for the purchased part and associated freight charges



ConveyX Solutions, LLC strives to be the leading dock door conveyor solutions manufacturer in North America. Our load and unload material handling equipment is designed for unit handling applications delivering operational improvements and energy efficiency.

We build to our customers' specifications to enhance their processes with quality equipment and components. We specialize in rapid product development to exceed lead time and volume requirements.