

IN-MOTION CONVEYORS

Product Line



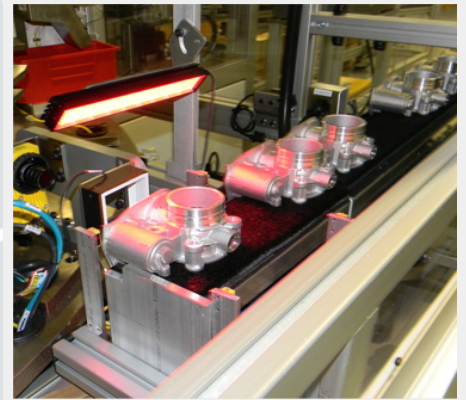
ROBOSHOP INC.
SPECIALTY AUTOMATION AND DESIGN

SOLUTIONS



**CONVEYORS
CONVEYOR SYSTEMS
PART FEEDERS
ACCUMULATION / BUFFER HOPPERS
TURN-KEY AUTOMATION**

AUTOMATION



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MOTION



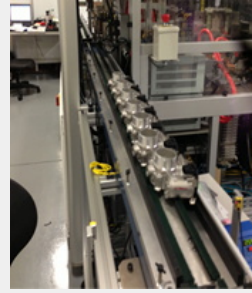
« vibratory »
conveyors
and feeders

*"If you want to find the secrets of the universe,
think in terms of **energy, frequency, and vibration.**"*
— Nikola Tesla

CONVEYORS AND CONVEYOR SYSTEMS

FLEXIBLE

Roboshop's In-Motion Vibratory Conveyors are beltless vibratory feeders, capable of moving parts ranging from very small, light components to steel bars weighing over 300 pounds. Our conveyors are compact, low-maintenance, durable, and infinitely adaptable so as to suit any application. Gentle part handling, one-direction or multi-directional conveying movement, organization, and accumulation, all accomplished on a single feeder bed.



FEATURES

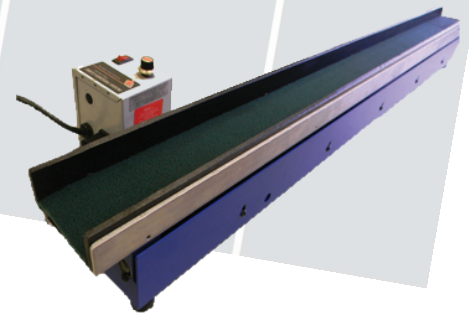
- A direct replacement for belt conveyors.
- Vibratory — no belts and no pulleys.
- Low maintenance — minimal moving parts.
- Durable — industrial nylon brush surface.
- Electro-magnetic drive — very durable, dirt and moisture resistant.
- Low profile — no motor — standard unit 4.5" high and 4" wide.
- Feed-rates up to 60 feet per minute (part dependent).
- Full speed control with solid-state drive.
- Low power consumption — less than 100 watts for a 12" W x 72" L section.
- Can be placed end to end with a 1/8" gap for long conveying needs.
- Can be placed at 90° to previous units to turn corners.
- Special sections available for 30°, -45°, -60°, -90°, curved, and U-turns.
- 100% safe — no guards required, no pinch points.
- Can be inclined up to 20° to convey parts uphill.

The basic model is our standard product that can be ordered in any size from 4" – 12" width and 12" – 72" length.

These conveyors come with 1.5" high non-adjustable side walls. Two brush surfaces are available.

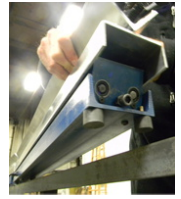
The 3/16" nylon brush is a general purpose brush for light to medium parts.

The 5/8" polypropylene brush is heavier duty, for rougher applications



CONVEYORS AND CONVEYOR SYSTEMS

PRODUCT LINE



"Standard V-Track" conveyors are used for moving cylindrical parts. These units move parts on aluminum "V"s with 3" legs. Larger units can be custom ordered.

As with all of our conveyors, these units can move heavy parts, up to 100lbs. on a 4 foot conveyor. Speeds of 8" to 12" per second can be achieved, depending on the parts.

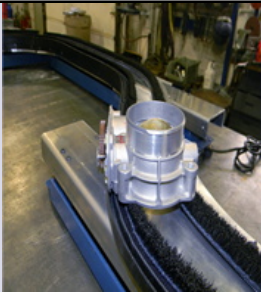
V-Tracks can be ordered Straight, Curved, and with 45° or 90° turns.



The Mini-Conveyor is our smallest profile vibratory conveyor. These units are available at 2" width x 2½" height to fit into areas where belt conveyors or in-line vibratory feeders can not go. Lengths from 10" to 72" are available, along with V-Track configuration. Although small these units can carry over 30lbs. in a 48" length. Speeds up to 12" per second are possible, depending on the parts.



The U-Turn conveyor is our basic conveyor arranged in a "U" configuration, either as a single conveyor (as shown) or in a configuration that consists of two of our standard conveyors with 90° end modifications. This allows two conveyors to be placed near each other to return parts back to a loading or unloading point.



Curved conveyor sections can be configured as single or compound S-curves along with custom curves and angles. Custom configurations can be manufactured to user specification.



Modular and easy to install

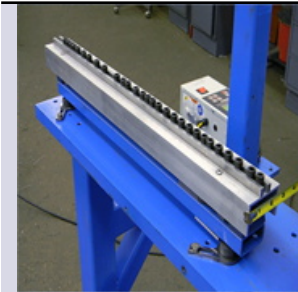
For long lines, conveyors can be placed in tandem, end to end, with an 1/8" gap between them.

Standard conveyors, V tracks, 90° turns, and curved sections are modular sections that can be set in place with the same procedure to provide custom configurations as needed.

CONVEYORS AND CONVEYOR SYSTEMS



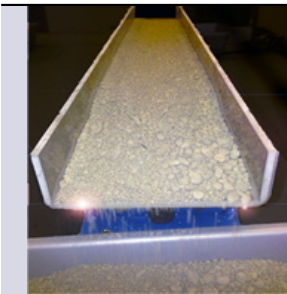
A sharp 90° turn is easily accomplished by placing two conveyors perpendicular to each other as shown. The conveyors can be placed with a 1/8" gap between them so that the parts can easily move between units.



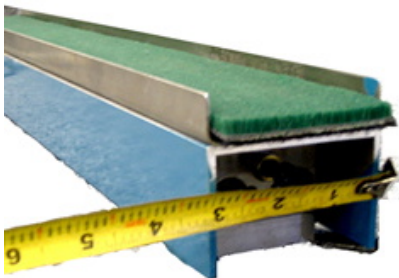
In-Line Feeders are conveyors modified to move parts into a machine or process which are either hand loaded or feeding in from a previous machine or loader feeder. The In-Line is custom made to fit specific applications. Custom configurations are available that include part escapements, level sensors, guide rails, or any tooling that is required by the customer. These conveyors can be designed to move parts on rails or surfaces without using our brush surface. They can be built with stainless steel or plastic surfaces for various applications.



Our Food Grade Conveyor features gentle, non-impact conveying motion with a wash down UHMW or stainless steel surface for sanitary handling of foods and pharmaceutical products. These are custom-made to customer specifications.

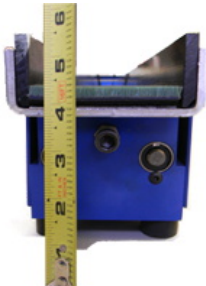


Our Vibratory Bulk conveyors offer an excellent solution for moving bulk materials with precise control for flow and minimal dust. This is accomplished with our frequency and amplitude controller which allows exact control of stroke and speed.



Mini Conveyor

For tight places see our low profile mini conveyor with the smallest foot print in the industry — 3" wide x 2½" high.



Standard Conveyor

CONVEYORS AND CONVEYOR SYSTEMS

How It Works



It's not really magic, but rather a very simple principle. The vibratory feeder bed reciprocates at frequencies ranging from 10Hz to 120Hz, utilizing the angled fibers of the brush to move components in the direction of the tilt. This is like using a brush to sweep. Because of the angled fibers, we can move parts in multiple directions on a common feeder bed by arranging the brush sections in the direction that we want the parts to move.

The brush is secured to the vibrating surface plate by means of a dual lock latch and hook system. To remove the brush, just pull it away from the lock tape. To reinstall the brush, just press it back on and smooth out.

Brush Types

Roboshop's In-Motion Vibratory Conveyors will optimize your system to fulfill your material handling requirements by providing the proper brush surface for each application. We have several types of surface that vary in fiber length and thickness.

Light part handling



General purpose, most versatile



Heavy duty application



Part Feeding Systems and Hoppers

PRODUCT LINE



Vibratory pan feeders are our Vibratory conveyors custom configured to re-circulate, orient, and feed pans into a automatic process or machine. We can provide "turnkey" systems to meet your part feeding requirements. These feeders are an excellent alternative to standard vibratory feeder bowls.

Low noise levels, gentle handling, low maintenance, and low costs make these units the best choice in many applications.



Accumulation and Buffering Tables are a combination of our standard conveyors and accumulator tables. They provide a simple, economical solution to buffer parts between processes.

These buffers can be sized to absorb the overflow from a preceding machine when the following machine is stopped or running at a slower pace. This allows the other machine to keep running, and parts are accumulated in the buffer. These parts will then feed into the next process when needed.



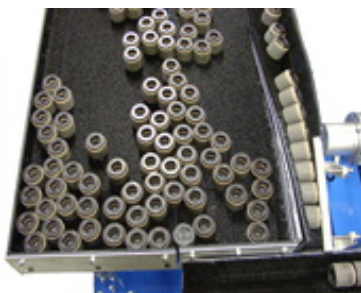
The accumulator serpentine buffer is used to compress a long buffering area into a square or rectangular area.

This allows for a collection area to "buffer" or collect parts between processes, or provide an area to allow pans to cool, heat, dry or cure before going into the next process.

This system allows for first in / first out to keep the process linear.



Re-circulating conveyor part feeder is a single conveyor with brush cut directionally in a pattern that moves parts around the surface to provide part separation as the components are moved past a video inspection system area. The inspection area can be adapted with translucent surfaces to provide backlighting if required.



Accumulation Table with
Twist Track

Combining our accumulation tables with various conveyors allows for configurations of complete systems to handle all your material handling needs.

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Part Feeding Systems and Hoppers

PRODUCT LINE



The Mini-feeder is our smallest vibratory feeder.

These feeders are an excellent alternative to vibratory feeder bowls. They can provide excellent capability for most parts that are traditionally fed on "old-fashioned" feeder bowls which are typically twice the price.

We build these custom-to-order and can ship in just a few weeks.



Special Application Systems

Roboshop can combine several of our products to provide an optimal feeding system for most applications.

These combinations, which include hoppers, accumulators, re-circulators, conveyors, and in-line tracks, give us unparalleled capabilities to solve your material handling requirements.

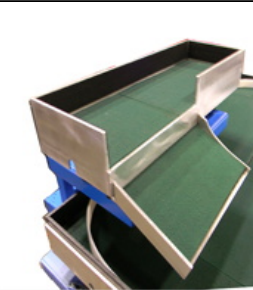


Table Mounted Hoppers

Unlike typical hoppers, our hoppers feature the same technology used on our vibratory conveyors.

By utilizing the directional brush, parts are re-circulated in the hopper which eliminates jams at the exit point. This provides excellent control when parts are dispensed.



Floor Hoppers

Roboshop offers standard and custom hoppers to feed parts to our vibratory feeders or for bulk dispensing to customer applications.



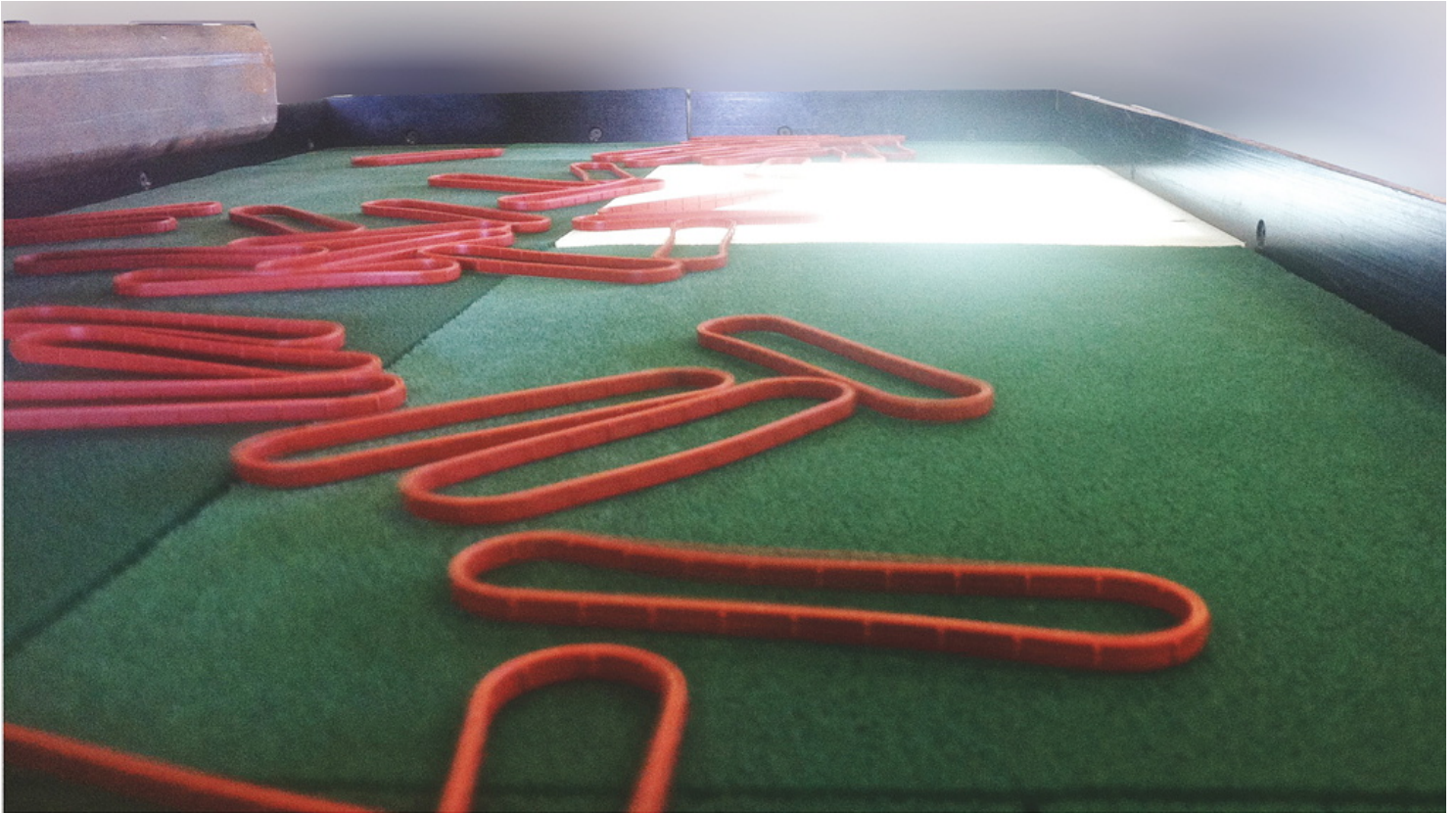
The "Flex Feeder" is our solution to part presentation for robotic pick-and-place applications. Using our vibratory re-circulators, parts are dispensed from the bulk-parts vibratory hopper to the vibrating feeder bed. As the parts move past the "vision" area, the camera inspects the parts. Location and orientation information is given to the robot.

The robot picks the "identified" parts and then restarts the vibratory system for a new presentation.

Special features are available, including:

- Backlight Area
- Ramped return feeder to "waterfall" parts back to the vision area for inverted orientation.
- PLC integrated control
- Custom sizes to fit your requirements

Part Feeding



- Flex Feeders
- Accumulation
- Buffer Systems
- Recirculators and Separators
- Twist Track
- Hoppers
- Conveyors
- Conveyor Systems



www.roboshopinc.com



226 Midler Park Drive
Syracuse, NY 13206
315-437-6454



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