Product Catalog

Designers and manufacturers of safe, simple modular conveyors

SAFE ... SIMPLE... SOLUTIONS
Introduction

Can’t find a conveyor?

Finding a conveyor to meet your application needs can be a very frustrating task. Once you get started looking, you’ll find out that you either need to be a conveyor engineer or “fork over” a pile of money to someone who claims to be... but, unfortunately, doesn’t know anything about your product!

Should it be that difficult?

Well, if you’re reading this, then you’ve discovered our simple modular conveyor systems. Conveyors and accessories that are already designed, tested, priced and ready to operate. You can now reduce your risks and project costs by purchasing customized conveyors that have specific functions at standardized prices.

Who better to design your system than YOU!

Need to move boxes down a line 40’ long? Just purchase a 40’ line based on the width, speed and conveyor height you need. We figure out how many stands, joiners, joints, drives, hardware, motors, belting...et al. Systems are shipped quickly with full documentation and manuals in 2 weeks or less and since they are modular, all you have to do is bolt on stands, join multiple sections, if any, thread on our simple snap together belting and plug-it-in to get up and running.

No technicians or electricians required.

Need to make a turn? No problem. All of our systems are designed to handle 90° turns. Just let us know where you intend to turn and we will remove the 1” high standard guard rail in that area and install an end-to-side transfer plate. We already have the pre-engineered components to meet specific functions.

Need a path across the conveyor? Purchase one of our Slide Gate Conveyors. These open and close without lifting. Now you can quickly and safely get access to your factory.

Just tell us what you need.

This catalog is a brief overview of our product line. Safe Conveyor Inc. represents a new generation of conveyors with simplified drives, simplified frames and ridiculously simplified modular plastic chain belt.

Simple.
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**Basic Modular Conveyor Features**

- **Guard Rail**: These 1” high removable guard rails keep products on the conveyor. Can be ordered with Flush guard rails for easy sliding on/off.

- **Optional End Stop**: Stop products anywhere along the conveyor length without needing to stop the conveyor belt. Add vertical walls to end stop.

- **Ball & Bar™ Belting**: Safe Conveyor, Inc. proprietary 3/4” pitch releasable belting provides safe & clean operation without any tensioning or tracking requirements. Non-marring low friction surface is ideal for sliding under products held by the adjustable end-stop. Construct continuous line conveyors up to 40’ long using modular universal sections. (Sections up to 8’ long each.) Available in Grate Mesh, Smooth Top or Custom belting.

- **Adjustable Stand Support**: Adjustable height stands are constructed of heavy gage aluminum extrusions that quickly mount with “T” slot hardware to the conveyor frames. (Struts not shown) Stands can be bolted down with base brackets directly to the floor or supported with levelers. Optional swivel total locking casters are available.

- **Levelers (Standard)**
Conveyor Basics

Belting

Safe Conveyor Inc. designs and manufactures modular plastic chain belted conveyor systems.

Modular plastic chain belting is comprised of multiple like shaped chain links that are joined in a “brick-like” arrangement to produce a suitable surface of continuous transporting belt. This belting is driven by plastic “sprockets” without the need of tensioning or tracking devices.

Safe Conveyor developed a system of “Balls” and “Bars” in it’s chain link design to releasably connect the belt assembly, thereby eliminating the use of “rods” to stitch the belting together. The Rodless Design improves belt life, reduces dusting and simplifies installation and repair.

In the event that the belt is jammed or the belt path is obstructed, the motor will shut off or the belting will “unsnap” to release the drive force from the belt. By acting as a “fuse” this belting is safer than belting joined by rods or pins.

Belting is available in widths from 6”-24”
(In-stock for quick ship.)

<table>
<thead>
<tr>
<th>Standard Smooth Top Belting</th>
<th>Grate Mesh® Belting</th>
<th>ESD Smooth Top Belting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color: Black</td>
<td>Color: Black</td>
<td>Color: Grey</td>
</tr>
<tr>
<td>Polypropylene</td>
<td>Polypropylene</td>
<td>Polypropylene with conductive additives.</td>
</tr>
<tr>
<td>Surface: Smooth non-scuffing low friction surface</td>
<td>Surface: Smooth non-scuffing low friction surface with 40% flow through air/liquid</td>
<td>Surface Resistivity: $10^5$ to $10^9$</td>
</tr>
</tbody>
</table>

Note: 1” high flights are available for inclines, zones control or special applications. Color: Black
Conveyor Basics

Conveyor Drives

Modular plastic belting requires less torque than tensioned belt conveyors. With less torque, we can use smaller motors to carry the same loads and to provide more operator safety.

Safe Conveyor Inc. uses high energy efficient long lasting drives. The motors and gearboxes have all ball bearing supported moving parts. Motors are totally sealed, long life Brushless DC and are available with IP65 protection. They come with a removable 9’ long IAC style power cord to meet OSHA power lockout requirements.

The motor controllers feature variable speed dials with push-button locking. The digital readout is factory set to read belt speed in feet/minute. Controller is equipped with Anti-tamper lock-out feature.

Safe Conveyor also offers watertight drives in either DC Brushless or 230V 3 Phase with Inverter speed Controls. These units require the controls to be mounted in a watertight enclosure similar to the one shown.

Motors can be mounted on either side of the drive end. Picture to left is a LH as shown motor with belt moving to the left. RH is opposite shown. (Motor would be mounted on far side.)

Optional Bi-directional drives mounted approximately 12” from the end are also available. (There is a 15% power reduction when using bi-directional drives)

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Speed Ranges

<table>
<thead>
<tr>
<th>Gear Ratio</th>
<th>Speed Ranges</th>
<th>Maximum Carry Capacity (Horizontal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200: 1</td>
<td>0.3-12.5 fpm</td>
<td>350 Lb</td>
</tr>
<tr>
<td>100: 1</td>
<td>0.5-25 fpm</td>
<td>300 Lb</td>
</tr>
<tr>
<td>50: 1</td>
<td>1-50 fpm</td>
<td>200 Lb</td>
</tr>
<tr>
<td>30: 1</td>
<td>2-80 fpm</td>
<td>150 Lb</td>
</tr>
<tr>
<td>20: 1</td>
<td>3-125 fpm</td>
<td></td>
</tr>
<tr>
<td>15: 1</td>
<td>4-160 fpm</td>
<td></td>
</tr>
<tr>
<td>10: 1</td>
<td>5-250 fpm</td>
<td></td>
</tr>
</tbody>
</table>

Drives are shipped fully assembled and ready to operate.  
Plug-And-Play. 
NO WIRING REQUIRED!
Modular Conveyor Sections

Durable yet lightweight modular aluminum extruded sections are aesthetically appealing, rustproof and easy to assemble, move or reconfigure.

Safe Conveyor Inc. uses custom fabricated hard anodized aluminum extruded sections to create modular conveyors that are easily assembled and supported with aluminum constructed joiners and stands.

Sections provide a low friction UHMW anti-static wear resistant "rail" style belt support deck system. Belting is returned on a equally low friction edge supported lower track to provide a fully enclosed belt path.

(No belts hanging down underneath!)

Sections are available for belt widths from 6” to 24” and from 18” to 96” long.

All sections are of a universal type design. Any section can have a motor installed... or be joined with other sections to operate with a shared motor. Sections can be joined to create conveyors up to 40’ long using a single drive.

Safe Conveyor sections are designed to create solutions for a wide range of conveyor applications. The conveyors can be joined end-to-end, end-to-side, side-to-side, dual path, inclined or in multi-level configurations. The conveyors will carry products up inclines as steep as 10° without needing vertical flights. With flights, inclines as steep as 60° are easily achieved.

The low friction belting is ideal for applications that require low pressure accumulation. (Running the conveyor under product without shutting off the belt.) The smooth surface of the belt allows it to slide without scuffing under product being accumulated on the belt. As a “rule-of-thumb” the conveyor can accumulate approximately 1/3 it's maximum load capacity. (i.e. for 300 Lb carry, you can expect to accumulate about 100 Lbs.)
Conveyor Basics

Conveyor Stands

Safe Conveyor Inc. manufactures adjustable height telescoping aluminum conveyor stands to support the conveyor on horizontal or inclined applications. They bolt to the 2 “T” slots on each side of the conveyor section.

Normally, you would need 2 stands per conveyor. When forming longer lines with multiple sections, use one stand on each end and one stand at each joint. These stands can be as short as 1” (just using the leveler brackets to support the conveyor) or purchased in different adjustable ranges as shown below. Note that all stand heights listed are from the floor to the top of the conveyor belt.

Stand Size Adjustment Range (Floor to Top of Belt) *(custom sizes available upon request)*

<table>
<thead>
<tr>
<th>Stand Size</th>
<th>Adjustment Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>5”-12”</td>
</tr>
<tr>
<td>-2</td>
<td>12”-15”</td>
</tr>
<tr>
<td>-3</td>
<td>14”-19”</td>
</tr>
<tr>
<td>-4</td>
<td>17”-22”</td>
</tr>
<tr>
<td>-5</td>
<td>20”-28”</td>
</tr>
<tr>
<td>-6</td>
<td>26”-37”</td>
</tr>
<tr>
<td>-7</td>
<td>35”-46”</td>
</tr>
</tbody>
</table>

Stands support static loads up to 200 lbs per conveyor section.
Optional total locking casters are available.
**Accessories**

**End Stops**
Continue delivering product without needing to stop the belting by using an adjustable end stop.

You can keep the plastic belt conveyor running while holding products with our simple adjustable end stop. (Commonly referred to as "Low pressure Accumulation"). You can easily add end stops anywhere along the conveyor line by simply attaching to the 1" high standard guard rail. Stops are available for all conveyor widths from stock. Create zones by installing stops at each work station.

**90° Corner Turns**
Make 90° turns from the end of one conveyor to the side of another Safe Conveyor with our turn accessories. Simple and safe **transfer plate** installs in place of the 1" high fixed guard rail to provide smooth seamless turning.

Our easy to install guide block mounts directly to the existing 1" high guard rails at the corner juncture. The 2 1/2" diameter solid UHMW low friction block prevents corners or edges of items from "catching" on the guard rails. (Shown with Optional roller wheel.)

**Adjustable Guide Rail**
Whether you need to Merge, Converge or simply Guide, Safe Conveyor Inc. offers simple and easy to adjust guide rails. This unique rodless streamlined design provides quick and accurate adjustments without obtrusive rods protruding from the conveyor.

Optional guide walls are available to help contain a wider range of product heights.

**Motor E-Stop Controls**
Emergency Stop Switches are available for all Safe Conveyor Models. These highly visible "Push to activate" and "Pull to reset" mushroom headed E-Stops switched conform to EN418 for machine safety. Switches have yellow banded indicator to alert you from the front and sides when the switch has been actuated. Switches mount to the top of the motor control box or can be optionally remote mounted up to 8' from the motor. Switch housing is NEMA 4X and 13 rated polycarbonate.
Accessories

Remote Control Switches
Remote Stop Switches can be provided with the Safe Conveyor drive systems. These switches can be mounted to the conveyor "T" slots to remote start or stop the conveyor motor at points other than the motor control box.

Use these switches to bypass sensor stops or simply provide more remote control away from the drive end.

Sensors
Photo electronic sensors can be provided with the conveyor to automatically start or stop the belt as products are detected. Use sensors to create systems that shut-off when items are delivered and then restart as they are removed. Built in timers in the sensor allow you to space objects apart as they are placed on the belt for easier processing along the line. Sensors wire direct to the motor without needing additional motor starters or control relays.

Ask us about our zone control systems.

Slide Transfer Plates
When standard transfers won’t work, consider using our Slide Plate transfer system. Parts transfer off the end and gently slide down a 1” decline onto the transitioning conveyor. Less disruptive than “water fall” transfers.

These plates will allow transfers of cloth, liquid filled bags and items that would normally get jammed into the joint at a transfer point.

Safe “pop-up” design prevents injury from jamming.

Custom Diverters
We manufacture custom diverters, merge arms, product rotators or single file control systems using our standard guide rail accessories. Please contact us with you application requirements. We would be happy to test your product upon receiving samples.
Conveyor Assemblies

Simple Single Section Systems

Your application may be as simple as moving a product and orientating it to the end. Such requirements may require a single conveyor with a single sided guide rails system. Items can be quickly dropped on the end of the conveyor and the guide rail diverts the product to the side to get all of the products orientated the same way.

Shown is a single conveyor with Rodless guide rail on non-motor side.

Simple Turn Systems

Your application may be as simple as making a turn. Many times, a turn will be needed to get products from one point to another. Our systems make excellent turns. The low friction belting and smooth surface belting allows products to “spin” around the corners with ease.

Shown is a short conveyor feeding on to a long conveyor.

More Complicated Turn Systems

Turns can be as simple as two conveyors being joined at a corner, or can get more complicated and involve:

- Guide Rails to help control product orientation
- Multi-levels of one or more conveyors

Shown is a 90° turn with a bi-directional 2nd level.
Conveyor Assemblies

Wide Conveyor Systems

Conveyors can be mounted side-by-side to create wider systems. Belt speed can be synchronized using our digital speed control motors.

Operate at different speeds to rotate product traveling on both belts.

Shown are 2 conveyors sitting side by side with 24” wide belts to create a 48” transporter.

Lots of Turns

Create multiple destination delivery systems.

Custom diverters are used to split product flow.

Shown is a jar transporting system with multiple destinations and corner turns.

Incline Conveyors

Just about any angle of uphill inclining is possible. We offer both fixed angle and adjustable angle incline conveyor systems to move material from under equipment up to bin, tables or other conveyor systems.

Shown is a paper scrap removing conveyor.