Glide-Line™
255 Schoolhouse Road
Souderton, Pennsylvania 18964

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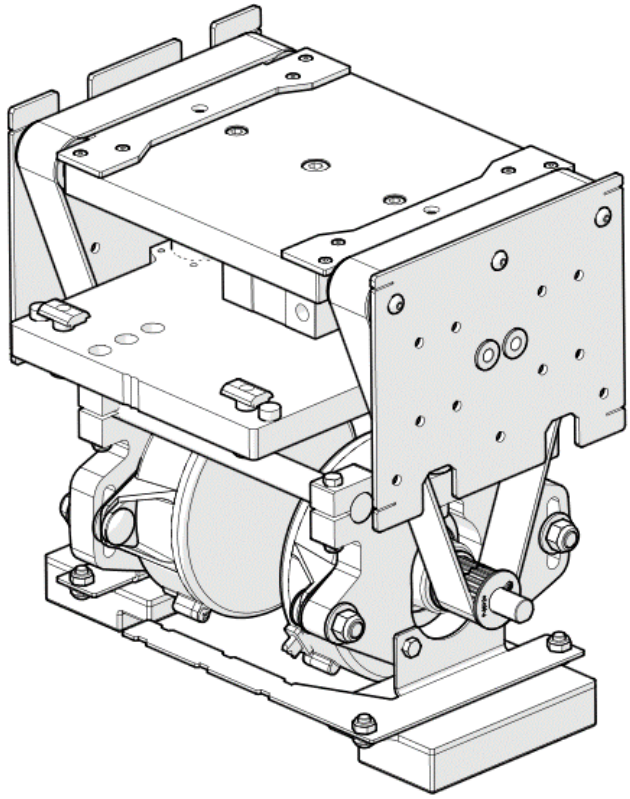
V2.0

LTU:
The Lift and Transfer Unit



The Device:

The Lift and Transfer Unit (LTU) is designed to transfer pallets onto adjacent conveyor lines. The device is highly configurable to accommodate many types of applications and traffic handling situations.

The LTU is powered by two belts, which can be specified as standard polyamide, antistatic polyamide, or high friction Polyurethane. The LTU also supports a wide variety of drive package options, and can be slaved to adjacent conveyors or other LTU's to minimize total drives required for the application.

The LTU can be configured into two, three, or four "positions". A three-position unit can be configured to operate as a retractable line stop in its middle position. Two-position units are suitable for use as an end-of-line stop. The LTU also has mount points for various dampeners. Consult each section for more detail.

Additional kits are available to allow for position sensing of all 3 possible positions. 5mm Proximity sensors are required for detection (not included).

Part Number: LTU(A)-(B)-(C)-(D)-D(E)

A	= pallet traffic flow is accepted from **2, 3, or 4** directions
B	= Pallet Width Range 160mm to 1040mm
C	= Pallet Length Range 160mm to 1040mm
D	= Belt Type, **S** for Standard polyamide (green), **A** for Antistatic polyamide (black), **P** for Polyurethane (white)
E	= Drive Type, reference drive section for available options.

Technical Specifications

Lift range (Stroke):	20mm
Lift cylinder bore:	50mm
Lift capacity:	150 Lbs. @ 80 psi.
Pallet length range:	160mm to 1040mm in 1mm increments
Pallet width range:	160mm to 1040mm in 1mm increments
Pneumatic Ports:	G1/8

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Basic Order of Operation:

1. Pallet is conveyed to device
2. While LTU is in the Middle position, Pallet strikes the stop plate, aligning it to LTU
3. Pallet on the LTU has 3 options:
   a. LTU goes to Low position, stop plate drops below conveyor surface, and Pallet conveys away from LTU
   b. LTU goes to High position, belts engage and transfer pallet to an adjacent line
   c. LTU goes to High position, belts engage in reverse and transfer pallet to an alternate adjacent line
4. LTU returns to Middle position to receive next pallet.

Note: 2 Position LTU has a Middle position and a High position, no Low position. Only a 3 Position LTU can go to Low position.

Available Drive Packages:

24VDC2 = Twin 24VDC Motors, 100 Watt. This option allows each belt to be independently powered.

AC(X) = AC powered option, 1/4HP. Motor mounted to Gearbox (ratio to be determined by user) and points directly down from transfer unit. Motor position ranges from A - D

EXT1 = Slaved Unit. This option is suitable for chaining multiple units together, or allows for configurations with the Satellite Drive Package

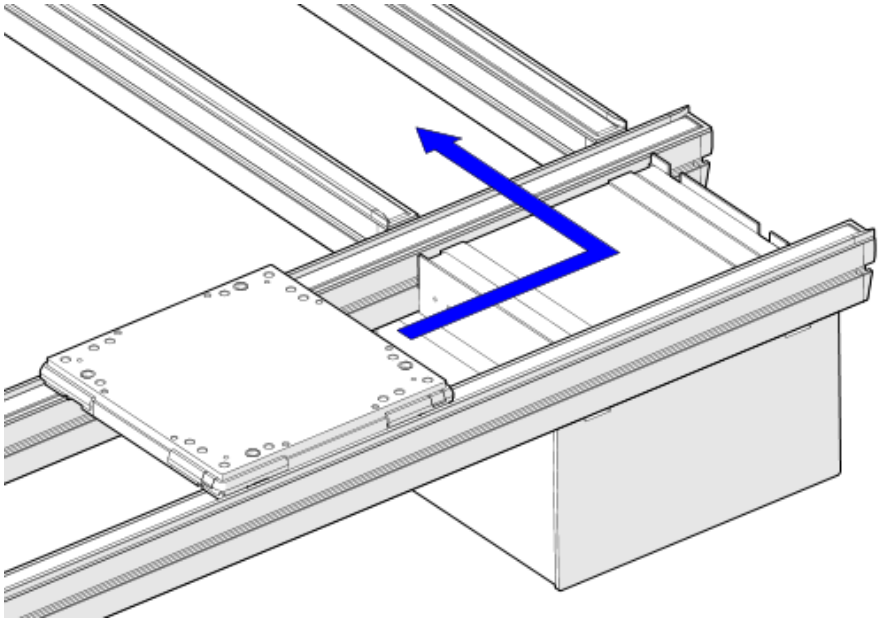
EXT2 = slaved unit. This option allows for tandem slave drive kit to run two LTUs off of one motor. 2 slave sprockets.

Traffic Examples

The LTU can be designed to accommodate multiple pallet traffic conditions at transfer points throughout the conveyor system layout. The following are some examples of stopping and traffic conditions that can be serviced by standard modules and configurations of the device. Also, below are some pictorial examples of how multiple stops can be utilized in stopping larger pallet sizes (240mm and greater).

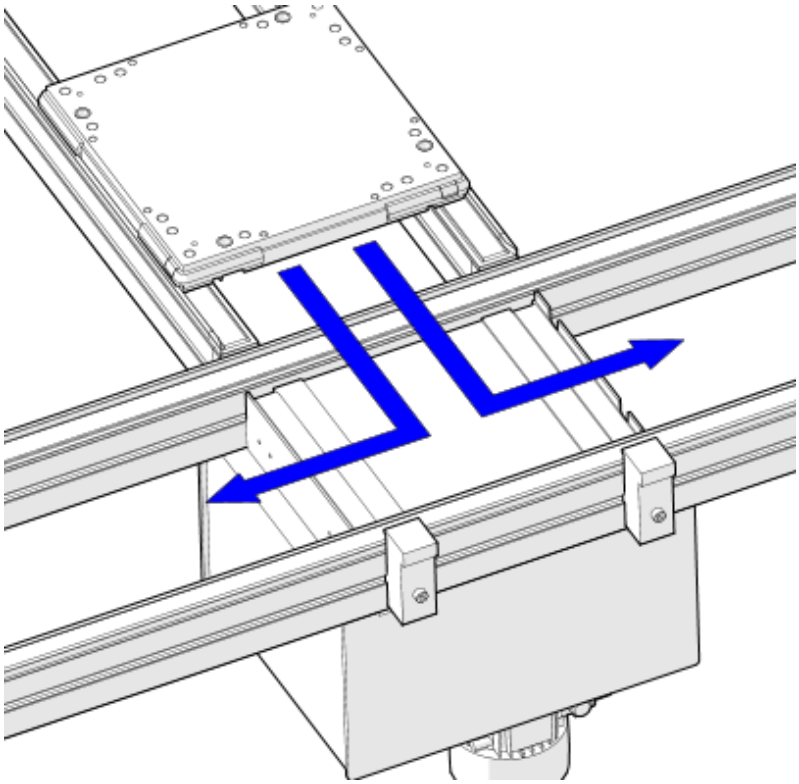
Traffic Example 1:
2 Position LTU (Typical Corner)

In this example, pallets are conveyed on a main line, and stopped by the LTU stop plate. The LTU begins in its Middle position, and when a pallet is present, goes to the High position to transfer the pallet to a transverse line. A dampener can be added to the LTU if required. This configuration is typical for the corner of a system where two conveyors meet and traffic is in one direction.



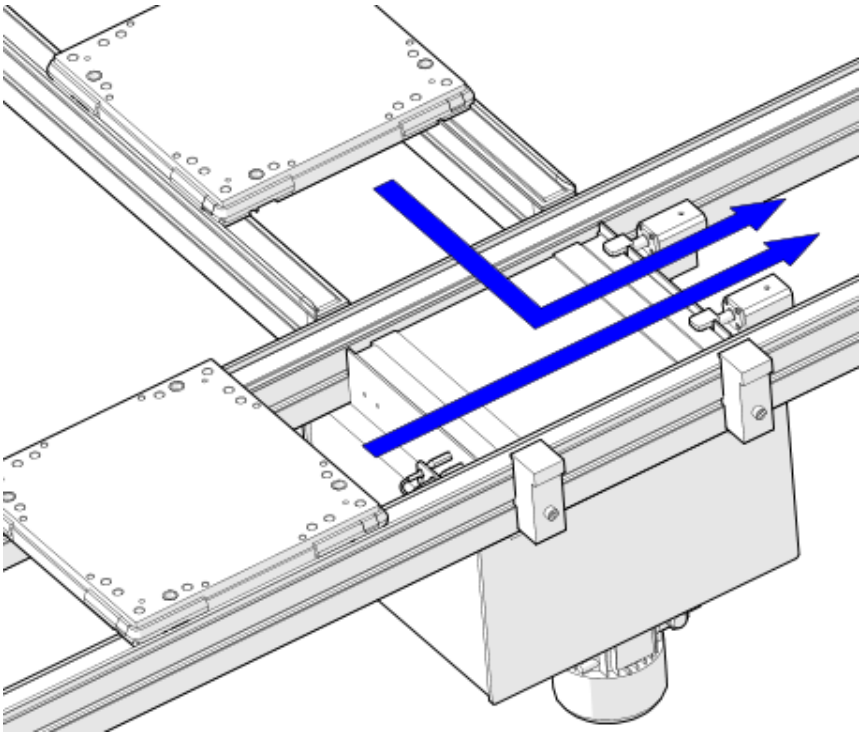
Traffic Example 2:
3 Position LTU (Transverse Bi-Directional)

In this example, pallets are conveyed to the LTU from a Transverse line. LTU receives the pallet in the High position, and pallet is stopped by a pair of fixed transverse stops (dampened versions available). The LTU then drops to the Low position, allowing the pallet to be conveyed in either direction.



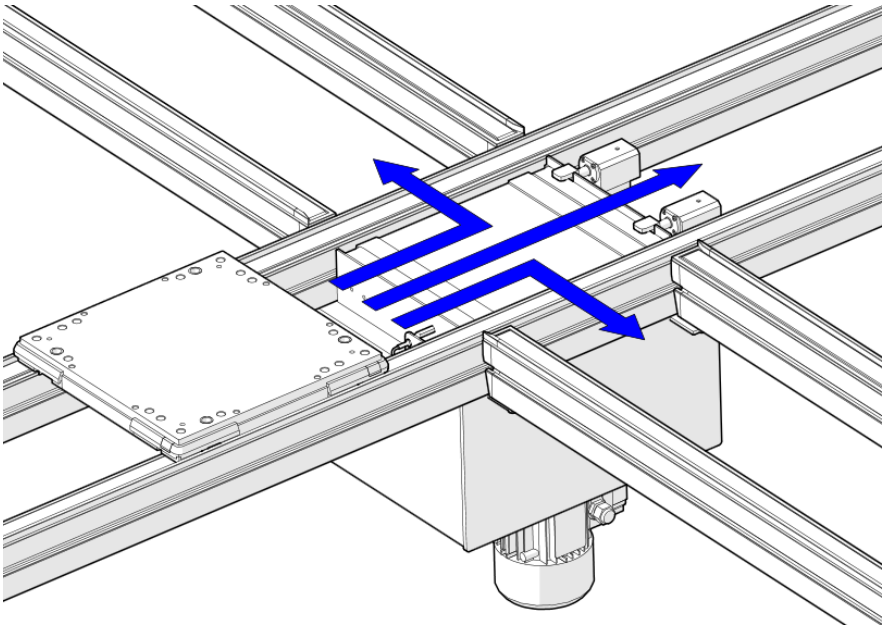
Traffic Example 3:
3 Position LTU (Transverse Merge to Main)

In this example, pallets come to the LTU via either the main line or a transverse line. Pre-stops control traffic to the LTU. The LTU can go to High position to receive pallets from the transverse line and combine them with the pallet flow on the main line. The LTU can also drop to the Low position and allow pallets on the main line to pass by freely.



Traffic Example 4:
3 Position LTU (3-way Decision Point)

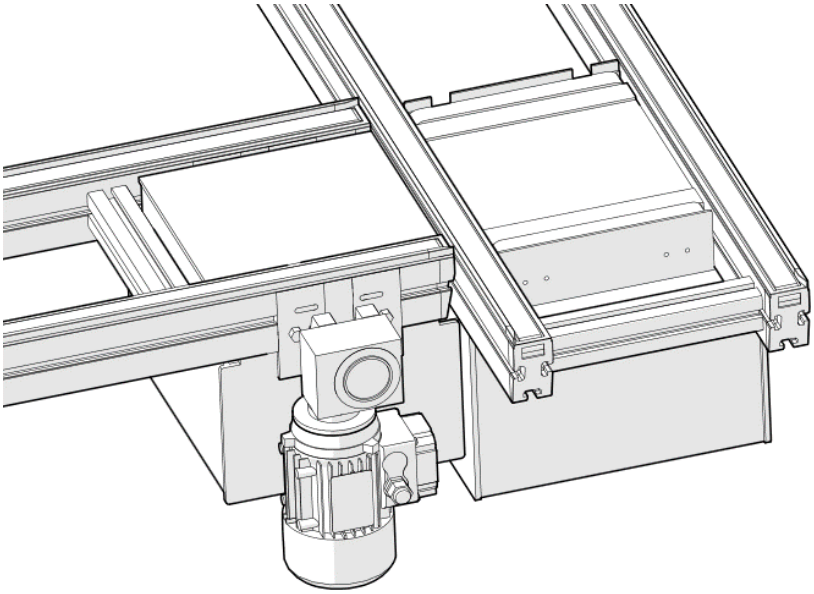
In this example, pallets are conveyed on a main line, and upon reaching the LTU (default Middle position), can either go Low to continue on the main line, or the LTU can go to the High position and transfer onto either of the Transverse lines. The LTU is self-powered in this configuration, allowing the belts to go forward or reverse to allow transfer to either line.



More LTU Options

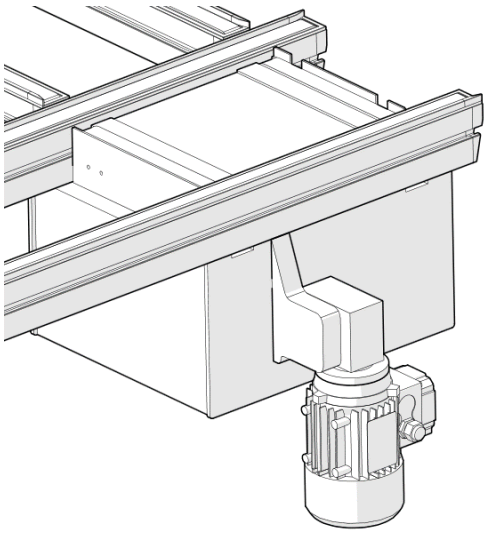
Slave to Conveyor Options:

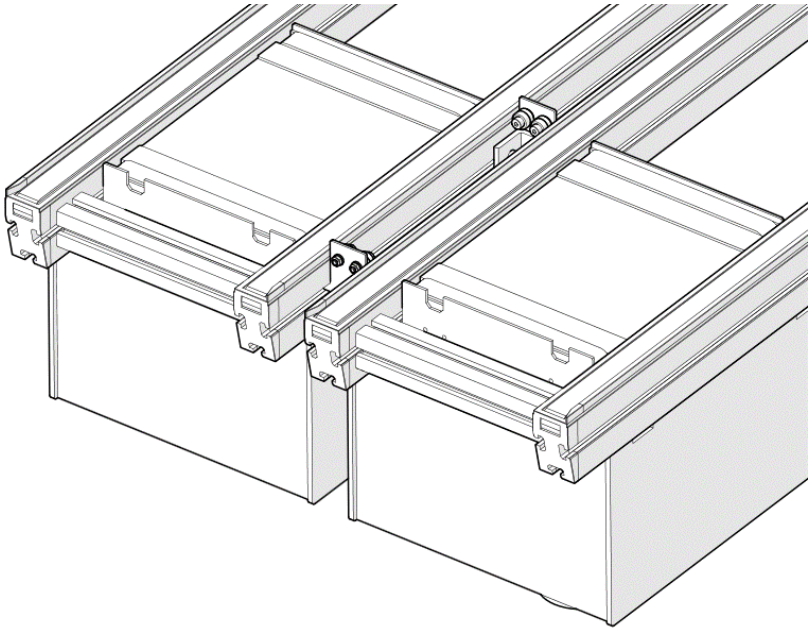
The Lift and Transfer Unit (LTU) is capable of being slaved to a nearby transverse conveyor. This setup is great for minimizing the total drives required to power a system, decreasing controls costs. Drive position for the conveyor must be 132mm from the end for a standard configuration. Slave kits must be ordered for each LTU required to be slaved.



Slave to Satellite Motor Package (AC):

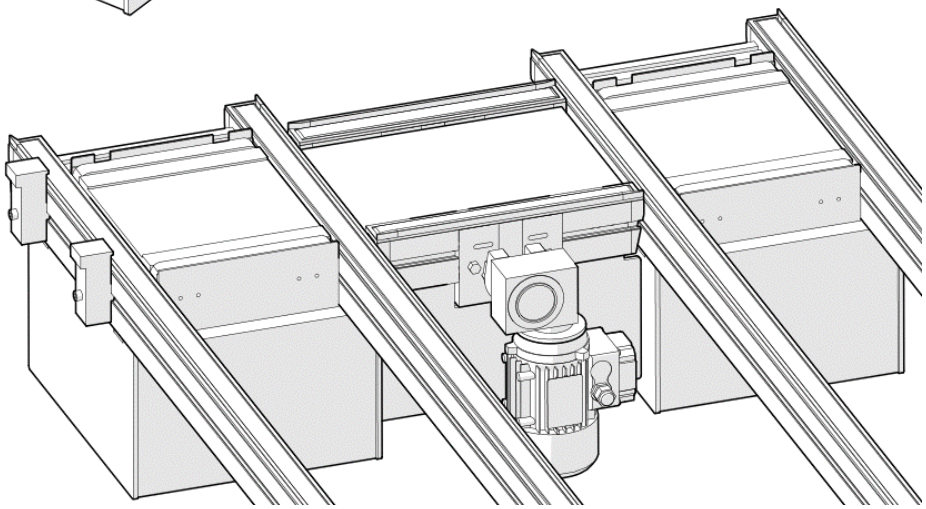
The Lift and Transfer Unit (LTU) is capable of being slaved to a satellite drive package. This option is useful if there are clearance issues and AC power is preferred. By getting the motor away from the bottom of the LTU, the satellite drive package allows for flexibility of the placement of the AC motor and gearbox.





Tandem and Other Slave Options:

Multiple LTU's can be slaved together, allowing parallel conveyor lines the ability to have easy, consistent transfers. A transverse conveyor can be specified, and two LTU's can be slaved off of the common transverse conveyor. Additionally, adjacent LTUs can be chained together and share drives. For an LTU to directly feed an adjacent LTU, the conveyors can be spaced 45mm/60mm/90mm apart (custom solutions available), and a roller gap kit must be used. Slave kits must be ordered for each individual LTU required to be slaved for the application. Tandem Slave kits minimum length of conveyor is 264mm (custom solutions available smaller than this).



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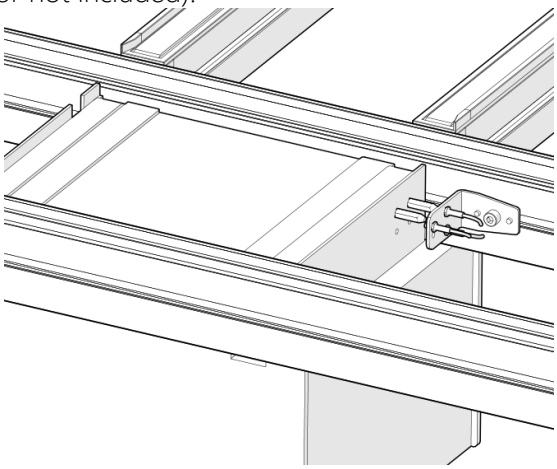
Position Detection Kit:

The LTU Sensor kit includes brackets and posts to accommodate up to (3) 5mm threaded barrel-style proximity sensors. This allows the unit to be detected in the High, Middle, and Low positions. Known as TPS Sensor bracket (sensor not included).

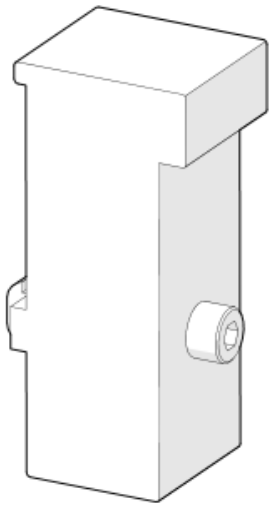


Recommended Sensor Package:

Glide-Line P/N: P-00320
Comparable to Pepperl + Fuchs P/N: 053491

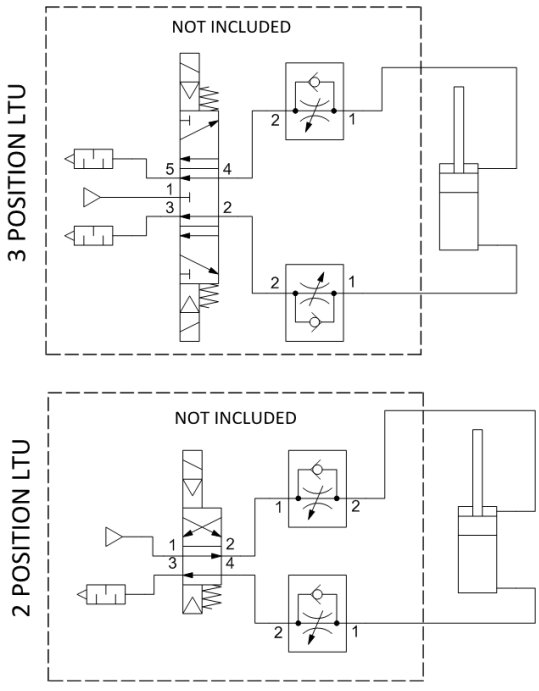
Transverse Non-Dampened Stops:

Transverse Stops have two modes of use; for Glide-Line pallets, and if flipped to the opposite side can be suitable for flat-plate style pallets. The stop is designed to bolt into the standard 10mm Glide-Line Conveyor T-Slot.



Recommended Pneumatic Schematic:

*Fittings and Valves not included



Dampening Stop Kit:

The dampening stop is designed to accommodate up to 60kg of pallet load. It is recommended that for pallet sizes over 240mm that two stops are used to symmetrically cushion the pallet as it comes to a stop. The dampening stop can attach either directly to the LTU for in-line dampening or be bolted to the Glide-Line Conveyor T-Slot for Transverse dampening. Double acting dampening stop kits also available for more complex LTU intersections.