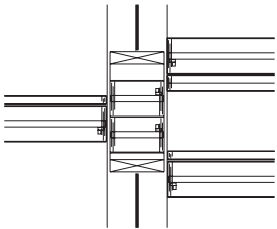
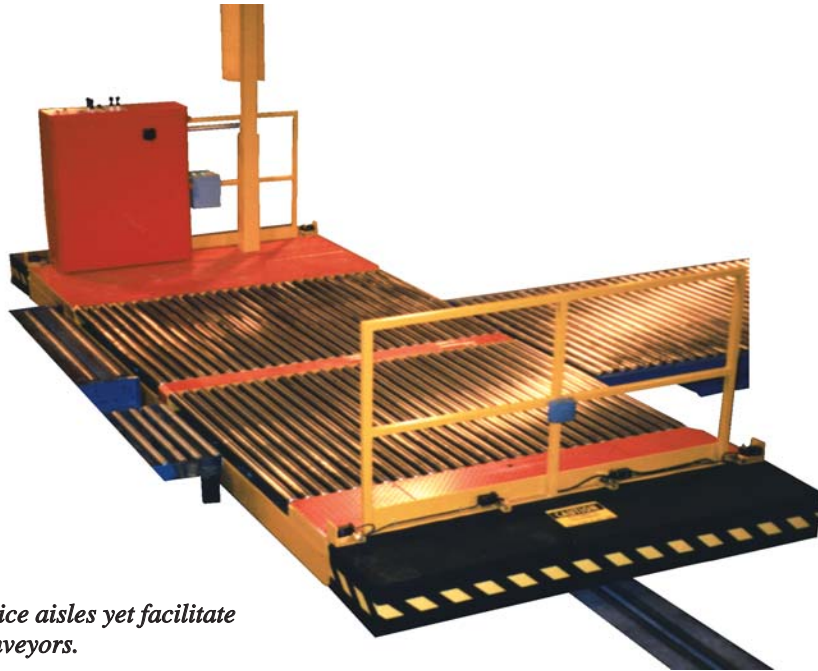


AUTOMATIC TRANSFER VEHICLE (TVA) OPERATOR TRANSFER VEHICLE (TVO)

CAR



Powered cars provide open service aisles yet facilitate transfers between stationary conveyors.

PRODUCT DESCRIPTION

Mainline's Transfer Vehicles are driven by multiple geared brakemotors, mounted to individual axle/wheel sets. All of the vehicle's drive motors are speed controlled by means of a common variable frequency drive unit. The structure of the base vehicle along with the unique "pivoting dual center drive" allows more controlled wheel/floor contact than any previously marketed designs. These features, in combination with the multiaxle drive system provides improved vehicle drive, as well as improved braking capacity in emergency situations.

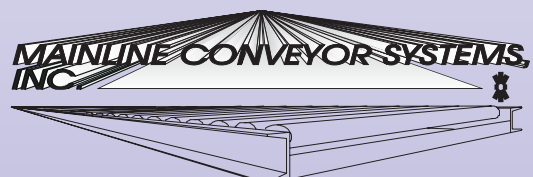
The standard vehicle supports two powered conveyors for the purposes of retrieving and dispatching loads from adjacent fixed conveyors. Mainline's center drive "BDLR" is used as the vehicle's conveyor and provides primary belt drive to all rollers. In addition, Mainline introduces laterally movable conveyors that allow separate positioning of the conveyors for car travel and load pick-up functions. This feature provides closer approach to the stationary conveyors during load transfer, while allowing additional clearance with fixed conveyors during car travel.

APPLICATION

Transfer vehicles have numerous roles in the automated factory. Their primary function is that of transporting loads between multiple sources and destinations. Additionally, they are commonly used in situations where loads must traverse a large area that must remain open to other types of traffic such as fork trucks.

FEATURES

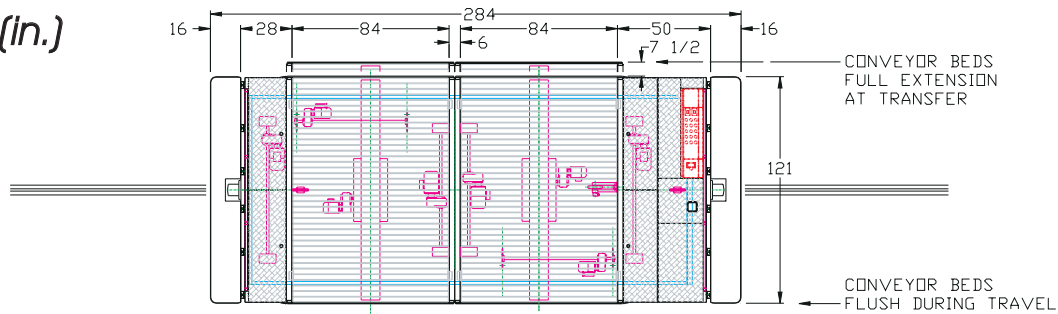
- Low profile, 12" TOR matches standard floor conveyor
- Flexible frame and "pivoting dual center drive" combine to increase wheel/floor contact and load capacity
- Multiple axle vehicle drive system increases motion control and decreases emergency stopping distance
- Polyurethane tread wheels provide durability and traction
- Small multiple drives allows use of common wheel/axles throughout car and are less costly to maintain spares
- Laterally movable conveyors provide more running clearance with stationary conveyors, and allows minimum gap during load transfers
- Conveyor drive is identical to floor conveyor systems and provides primary drive to all rollers
- All rollers are shaft retained for increased drive capacity
- Separate base vehicle, conveyor, and deck construction allows easy field installation and conveyor replacement
- Audible and visible signals alert nearby individuals of motion during automatic operation
- Laser pathway sensors detect obstacles in and near vehicle path prior to contact
- Perimeter ribbon switches in the soft bumper and along conveyor ends detect contact with the vehicle
- Breakaway mast releases overhead festoon system when overloaded and is reset without parts replacement



Car; For use with CRA, CRN, and CRG conveyors

AUTOMATIC TRANSFER VEHICLE (TVA) OPERATOR TRANSFER VEHICLE (TVO)

Dimensions (In.)



GENERAL SPECIFICATIONS

Vehicle Width/Conveyor length	10'-1" at bumper/10'-0" (Other widths available)
Alisle Width	11'-3" (With laterally movable beds)
Vehicle Length	23'-8"
Pathway Sensor Range	10'-0" minimum (With laterally movable beds)
Conveyor Widths - Between Frame	84" bf
Minimum Height	12" TOR
Load Capacity	Min: 24"w x 24"w x 24"h; 100lbs. Max: (Conveyor(s) W + 6") x (Veh. W - 9") x 60"h; 8000lbs.*
Speed - Vehicle	300fpm in automatic, 200fpm in manual operation
- Conveyor	45fpm

POWER REQUIREMENTS

Electrical Supply; Amperage	230-460V/3ph/60hz; 30A at panel (460V)
Drive - Vehicle	(2, 3, or 4) 2hp direct drive gearmotors, VFD controlled
- Conveyor	(1 per Conv.) 1hp gearmotors, BDLR
- Conveyor Lateral	(1 per Conv.) 1/2hp gearmotors
Electrical Delivery	Overhead festoon cable system towed along by breakaway style mast supplies onboard control panel with line power and control signals

CONSTRUCTION

Base Frame and End Decks	Various Structural Shapes
Wheel/Axle	Two 9" dia. polyurethane tread wheels per drive on 2" TGP axles
Support Bearings	(2) 2" flange blocks per wheel, (2) 1-3/8" dia. flange block per drive, mounted to frame
Vehicle Drive	Shaft mounted to 1-3/8" axle, Torque mounted to frame
Conveyor Frame	C5 x 6.7 side frames and composite structural tie braces
Conveyor Mounting	(4) 4-1/2" dia. steel flanged wheels support and guide each conveyor at side frame
Conveyor Drive	Center drive package, BDLR, same as floor conveyors
Conveyor Lateral Drive	Gearmotor driven 3/4" roller chain tows conveyor, 15" max travel

CONTROL OPTIONS *

Manual Operation	Operator pushbuttons located on top of vehicle control enclosure
Automatic Operation	Load source and destination selection controls at PB stations along car aisle;
PC Controls	Car positioning wheel locates vehicle along aisle; Photoeyes detect loads and control conveyor and vehicle determines car operation in automatic mode based on custom programming

* Contact Mainline Conveyor Systems, Inc. for additional control or capacity information.



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