

# Overhead Shuttle Loader / Unloader



## **Automatic Loader & Conveyor** – economical material handling

Glassline specializes in shuttling systems for a variety of material handling applications including loading and unloading lines, CNC system loading, servo positioning systems, etc. Standard shuttles used in loading applications are more economical than robotics, and are much simpler in terms of maintenance.

The standard Glassline loader shuttle consists of a main tubular steel beam, machined and mounted with a linear motion slide arrangement. A carriage unit is mounted to the slide arrangement, and is driven along the beam via timing belt and AC motor. Attached to the carriage is a vacuum frame subassembly. A pneumatic cylinder is used for tilting of the entire assembly from vertical to horizontal, and a vacuum cup sub-frame is bearing mounted to the tilting frame. Air cylinders pick the glass from the rack and, after tilting, set the glass back onto the conveyor. The vacuum cups are mounted to aluminum extrusion via T-nuts and handles, which can be loosened and the cups easily adjusted to a new position. Air hoses are attached to the cups via manifolds and shut-off valves, in order to place some cups out of service depending on size and shape of parts. An AC drive panel is mounted to the side of the shuttle.

The system can be quoted with edger-integrated controls, with separate PLC control, or without controls. Rack change systems and conveyors are also available.

**GLASSLINE**

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## SPECIFICATIONS

<b>Glass Size Capacity</b>	Standard systems: 1m x 1m, 1m x 1.5m, or 1.5m x 2m Custom designs made depending on application – to fit glass size needs
<b>Orientation</b>	Typical orientation is for the glass to be long edge down on the rack, loaded long edge leading into the system, with the outside of the part as it sits on the rack facing up on the conveyor. Custom options for rotation and alternative loaders are available should the inside surface be required to face up.
<b>Cycle Rate</b> (depending on application)	Standard system loads nominally sized glass in 10 - 12 seconds. Cycle time depends on amount of separating agent between glass, glass weight and other factors.
<b>Rack Type Considerations</b>	If different rack heights are normal and it is not possible for the racks to be adjusted to the same height, a servo vertical axis should be requested.

## FEATURES

- ▶ Versatility of system – various options available for tiers, rows, rotation, etc.
- ▶ Vacuum cup shut-off valves
- ▶ Easily adjustable cups

## OPTIONS

- ▶ Horizontal Rotation – depending on the application, a simple pneumatic device can be used for 90 degree rotation, or a servo motorized system for precise unlimited rotation. Rotation allows the glass to be presented in different orientations depending on the size and or process requirement.
- ▶ Vertical Axis – provides the ability to pick parts from different heights, for example, if parts are stacked on racks in tiers or levels.
- ▶ Servo shuttle axis – typically an AC motor is used, but in fast cycle rate applications a servo motor will be fitted, allowing for faster start/stop and accurate positioning.
- ▶ Part location (non-contact) – depending on the application, part edges can be found by means of a laser or other sensor, and in conjunction with the servos, the part can be placed accurately for the application without the need to push or nudge the part which can cause scratching.
- ▶ Turntable rack change unit



*Turntable / Change Unit.*

## GLASSLINE

**Glassline Corporation**  
28905 Glenwood Road  
P.O. Box 147  
Perrysburg, Ohio 43552-0147

Phone: (419) 666-5942  
Fax: (419) 666-1549  
E-mail: [sales@glassline.com](mailto:sales@glassline.com)

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