

LVA 2000 Automatic Guided Vehicle

- Automatic load transfer to and from both sides, fitted with dual roller conveyors.
- The top load stabilizer is a practical option
- Load capacity 2,000 Kg.
- Full speed 1 m/sec. forward with one full size bumper.
- Bi-directional model available.
- On board microprocessor with user friendly software, with many diagnostic functions.
- Wire and laser guidance and free range capabilities.
- Compact dimensions with respect to the load.
- Reliability & ease of maintenance by technical simplicity.
- Custom models available.

MECHANICAL

The vehicle chassis is built on a massive steel plate at the bottom of the vehicle frame. The machine is very sturdy since the design utilizes a point of lower gravity. The design makes it easy to modify the dimensions of the overall width and length of the AGV. The vehicle can also be built totally in aluminum to reduce vehicle weight. The electrical mounting plate is located in the vehicle front end. The battery is located behind the electrical compartment rear wall, separated from the electronic equipment. The load transfer equipment is located over the battery. Any type of conveyor or lift platform can be fitted or a fixed load platform.

DRIVE AND WHEELS

The drive and steer wheel is located in the vehicle front end. It is an integrated unit with a drive motor, a steering motor and a fail-safe brake. The vehicle has three longwearing wheels. The steer wheel and two fixed wheels are located a short distance from each other which gives excellent turning and reverse travel capabilities. The vehicle can be built for bi-directional travel utilizing two full size bumpers for maximum safety at full speed. Laser bumpers are optional.

CONTROLS

The controls are state of the art yet field proven in hundreds of AGV's. Laser or wire guidance in combination with measuring wheel technology combines into a reliable, easy to use and easy to install guidance system. The AGV can operate under its own control by its onboard micro computer, or be remotely controlled by standard PCs which can handle systems with multiple AGVs. Communication is wireless 802.11 (b). The AGV can also be operated manually by use of a pendant.

SAFETY

The AGV has emergency stops front and back and a full size bumper in the front. The bi-directional unit has a bumper in the rear as well. The length of the rear bumper is depending on reverse travel speed. Optional photoelectric sensors can be added for slow down to the vehicle to increase safety. The AGV is equipped with two or four warning lights. The load is monitored by photocells during loading, unloading, and travel. Sick laser bumper is an option.



ELECTRICAL SYSTEM

The vehicle has a 48 volt battery. The capacity of the battery can be up to 240 ampere hours, or more depending of load transfer height. In AGV systems where batteries are exchanged, the battery can be transferred sideways onto a stationary roller or cart. The AGV can also be equipped with automatic charging connectors. All the control components are located in a Nema12 electrical compartment which located underneath the rollerdecks.

SYSTEMS INTEGRATION

The vehicle offboard control system used for multi vehicle and advanced systems operation is De'Carte™, which is based on Windows 2000 or XP and MS Visual Studio.net object oriented software development techniques. It utilizes ODBC (OpenDataBase Connectivity) for easy integration and compatibility and supports virtually any database including MS Access, SQL server, and Oracle. A system can be run from a stand alone PC or be interfaced with a host computer system with ERP or WMS.