

### FLB2000 Automatic Guided Vehicle

- Automatic load pickup & delivery
- Load Capacity 4400 lbs/2000 kg
- Compact dimensions requiring little floor space
- Variable dimensions to accommodate load size
- Ruggedly designed for hostile conditions
- Laser or wire guidance with free ranging capability
- Enhanced load stability with optional electric top clamp
- Onboard microprocessor with user-friendly software
- Display panel with a clear text error display  
Errors and commands in plain English
- Simplified diagnostics and trouble shooting via keypad and display panel



#### **MECHANICAL**

The vehicle chassis is built on a massive steel plate at the base of the vehicle frame. A low center of gravity makes the machine very stable at any speed and in all turns. The frame and the upright are a one-piece assembly, with no more than ten integrated parts, which are welded together. The basic design allows modification to suit your specific AGV system application.

#### **DRIVE AND LIFT**

The drive and steer wheel is located under the battery and control cabinet. It is an integrated unit with a drive motor, a steering motor, and a fail-safe brake. The lift unit is a ball screw driven by an electric motor with a parking brake. Encoders measure the movements of the lift and the travel very accurately. The vehicle has five long-wearing wheels.

The steering wheel and the two fixed wheels are located a short distance from each other, which gives excellent turning and reverse travel capabilities. There is no hydraulic system on the standard version of this vehicle.

#### **CONTROLS**

The controls are state of the art, yet field proven in hundreds of AGVs. Laser and wire guidance in combination with an encoder to measure the travel distance translates into a reliable, easy to use and install guidance system. The AGV will operate under its own control via an onboard microcomputer, CB12, made by AGVE. The CB12 controller, display-keypad panel and all AGVE electronic components have a 15 year hardware and software support and availability guarantee. The AGV can also be remotely controlled by an offboard control system. The AGV can also be operated manually via a hand held control pendant. Communication may be continuous via wireless or per location via infrared communication.

#### **SAFETY**

For personnel protection the AGV has front, rear, and side bumpers. The AGV also has three emergency stop buttons, a warning light, and an electronic beeper. Laser bumpers are an option.

#### **ELECTRICAL SYSTEM**

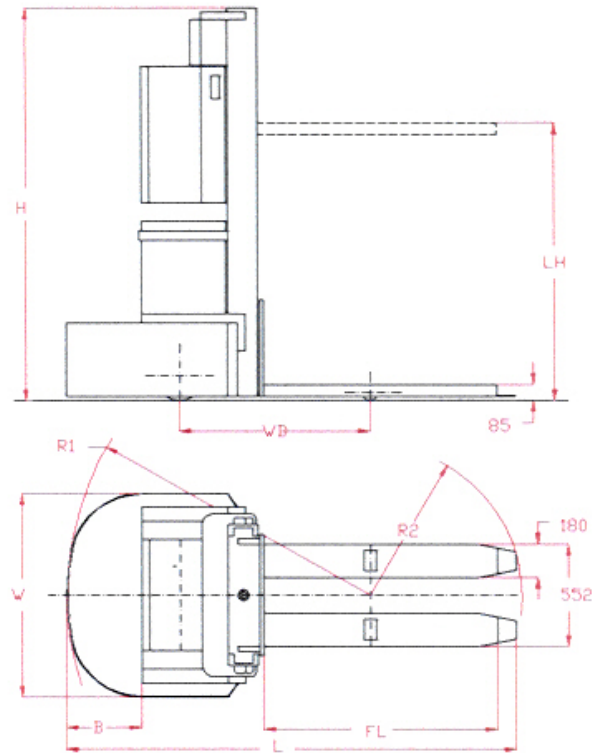
The vehicle is powered by a 48-volt battery with a capacity up to 420-ampere hours. The AGV can operate up to 24 hours before the battery has to be exchanged or recharged. The battery can be transferred sideways or lifted off the vehicle. The AGV can also be equipped with opportunity charging using a much smaller battery. There will be charging collectors located underneath, on the side, or overhead as required per application. All the AGV control components are located in a NEMA 12, fan/filter ventilated electrical cabinet.

#### **SYSTEMS INTEGRATION**

The AGV is designed to be a reliable and easy to use component within a complete material handling system. The AGV offboard control system is based on Windows 2000 or XP and MS Visual Studio.net object oriented standard software. It utilizes ODCB 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.

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<b>W</b>	<b>Width</b>	Depending on load configuration. 43" / 1100mm
<b>L</b>	<b>Length</b>	Depending on load configuration. 92" / 2340mm
<b>R1</b>	<b>Front Turning Radius</b>	Due to the location of the rear wheel it is kept to a minimum. Normal 50" / 1270mm
<b>R2</b>	<b>Rear Turning Radius</b>	Depending on the load configuration.
<b>WB</b>	<b>Wheel Base</b>	Depending on load transfer configuration. 28" / 700mm
<b>LH</b>	<b>Lift Height</b>	Up to 6 feet / 2 m
<b>H</b>	<b>Total Height</b>	83" / 2100mm will vary with lift height.
<b>B</b>	<b>Bumper Stroke</b>	15.75" / 400mm
<b>FL</b>	<b>Fork Length</b>	Min. 30" / 1250mm. Built to load specification.



Due to simple and flexible design concept several other dimensions may also be changed.

<b>Drive Unit</b>	Electrical integrated motor-in-wheel drive.	<b>Guidance</b>	Forward, reverse, rotate and off wire capabilities and Laser guidance
<b>Steer Unit</b>	Electrical integrated with drive unit.	<b>Travel Speed</b>	Forward: 200ft./min., 1 m/sec Reverse: 100ft./min., 0.5 m/sec
<b>Drive Brake</b>	Electro-magnetic, integrated with drive unit.	<b>Weight</b>	1925 lbs. / 875 kg. without battery.
<b>Battery</b>	48 Volt DC wet lead acid or gel, up to 420 Ah, or a smaller battery for opportunity charging.	<b>Controls</b>	Microprocessor based control board, Hand held manual control unit, 16x2 character control display panel
<b>Lift Unit</b>	Electrical motor, ball screw and gearbox.	<b>Paint</b>	According to customer specification
<b>Lift Speed</b>	10"/sec., 75mm/sec.	<b>Lift Capacity</b>	4400 lbs./2000kg.
<b>Clamp</b>	Electrically operated, optional	<b>Charging</b>	Battery exchange with rollers or opportunity charging
<b>Wheels</b>	Drive Wheel 10.6"/270mm Dia. Rear Wheel 3.3"/85mm Dia. Caster wheels 5.9"/150mm Dia. (Larger Wheels Optional)	<b>Safety Functions</b>	Flashing Warning Lights, Beeper Emergency Stop Pushbuttons Front, Rear and Side Bumpers Fork Tip Sensors Deep Load Stacking Sensors Fork Bumpers (optional)