

# Sam Technology Projects Pty Ltd

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**AUTOMATIC GUIDED VEHICLE**

**TYPE: FLB-light**



- **Proven on-board controls with user friendly software.**
- **Multiple choice of guide techniques including laser.**
- **Compact dimensions make it work on limited floor space.**
- **Reliability and ease of maintenance by technical simplicity.**
- **Complete vehicle design based on longtime experience of AGVs**



## ***MECHANICAL***

The vehicle chassis has a welded steel frame integrated with the lift mast. The drive and steer wheel is located in the vehicle front end. The drive unit is mounted with spring suspension. It is an integrated unit with a drive motor, a steering motor and a fail-safe brake. The lift is built with a ball screw and an electric motor with a brake and a gear box. The movement of the lift and the travel is measured very accurately with encoders. The vehicle has longwearing wheels. The steer wheel and the rear wheels are located a short distance from each other which gives excellent turning and reverse travel capabilities.

## ***SAFETY***

The AGV has bumpers in the front, rear and fork tips for personnel and load protection. Optional sensors and laser scanners can be added to make the AGV even more protected. The AGV also has two emergency stop buttons, two warning lights and a buzzer located on the electrical cabinet.

## ***ELECTRICAL SYSTEM***

The vehicle has a 48 volt battery. The capacity of the battery can be up to 240 Ah. The AGV can operate up to 16 hours before the battery has to be exchanged or recharged. The battery can easily be lifted off the vehicle in AGV systems where batteries are exchanged. The AGV can also be equipped with automatic charging connectors.

## ***CONTROLS***

All the control components are located in the electrical compartment. The AGV onboard controls are designed to be reliable, easy to program and to be integrated in simple or complex AGV systems. The control board is based on a micro processor. Available guidance techniques are wire guidance, laser or magnet-gyro navigation. Each AGV is equipped with a 2x16 character control display with key pad for easy start-up and maintenance. The AGV comes with a hand held control set for manual operation.

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## AUTOMATIC GUIDED VEHICLE

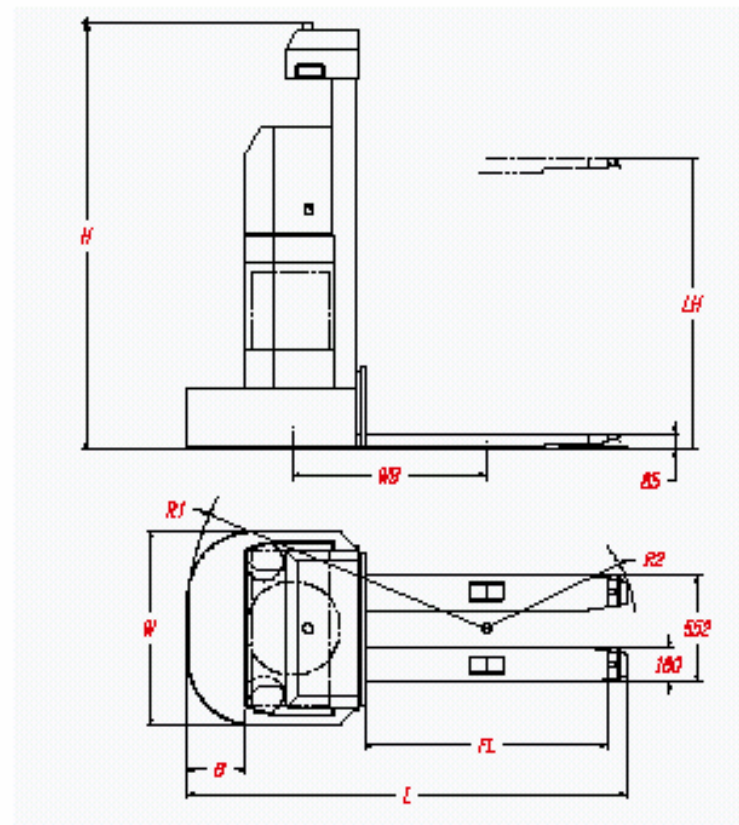
TYPE: **FLB-light**

### SYSTEM INTEGRATION

The AGVs can operate in stand alone systems without external control or be directed by external computers or PLC-systems. PC computers with Windows NT is the most frequently used configuration. Communication is normally via radio but local IR transmitters are also used. AGV Electronics has the programming tools for onboard AGV-controls, and can also provide program modules for communications and AGV-system control in PC-computers. More complex system integration is most of the time made by the system integrator in co-operation with the end-user of the system. In most cases, AGV Electronics is a sub supplier of automatic vehicles or of AGV-hardware and software modules.

### TYPICAL DIMENSIONS

<b>W</b>	<b>Width</b>	Depending on load (1050 mm at load size 1200 x 1000 mm)
<b>L</b>	<b>Length</b>	Depending on load (2365 mm at load size 1200 x 1000 mm)
<b>H</b>	<b>Total Height</b>	2200 mm
<b>R1</b>	<b>Front turning radius</b>	Due to the location of the rear wheel it is kept to a minimum. Normal 1542 mm.
<b>R2</b>	<b>Rear turning radius</b>	Depending on load config. Normal 760 mm
<b>WB</b>	<b>Wheel Base</b>	Depending fork length. Normal 1096 mm
<b>LH</b>	<b>Lift Height</b>	floor to 1.0 m (standard)
<b>B</b>	<b>Bumper stroke</b>	400 mm
<b>FL</b>	<b>Fork Length</b>	1250 mm (load size 1200 x 1000 mm)



### SPECIFICATION

<b>Drive Unit</b>	Electrical, integrated motor-in-wheel drive.
<b>Steer Unit</b>	Electrical, integrated with drive unit.
<b>Drive Brake</b>	Electro-magnetic, integrated with drive unit.
<b>Wheels</b>	Drive wheel 270mm dia. Rear wheel 85 mm dia. Castor wheels 150 mm dia.
<b>Travel speed</b>	1 m/s forward 0,5 m/s reverse
<b>Controls</b>	Microprocessor based control board. Hand held manual control unit. Control panel (2x16 character display)
<b>Guidance</b>	Inductive wire guidance with off wire capabilities. Laser navigation. Magnet-Gyro navigation.

<b>Load Capacity</b>	1000 kg
<b>Lift Unit</b>	Elec. motor, ball screw, brake and gearbox.
<b>Lift Speed</b>	50 mm/s
<b>Paint and rust protection</b>	According to customer specification.
<b>Battery</b>	48 Volt DC lead acid or NiCd, up to 240 Ah.
<b>Weight excl battery</b>	900 kg
<b>Safety functions</b>	Front, rear and fork bumpers Emergency stop pushbuttons Flashing warning lights Buzzer

Sam Technology can supply a large a variety of AGV models specially designed for your needs