

# M500-U

**Unit Load**  
**5,000 lbs Carry Capacity**

The Model M500-U is part of our top-selling family of AGVs offering ultimate flexibility, reliability and scalability at an affordable price.

### FEATURES

**Compact and Maneuverable:** The ultra-low top of deck is ideally suited to carry heavy loads at an ergonomic height, also available with lift or conveyor deck. This AGV is highly maneuverable with center rotate and bidirectional capabilities making the best use of your valuable space.

**Multitalented:** This AGV supports both Natural Feature Navigation and Inertial navigation ensuring the ability to navigate in challenging environments.

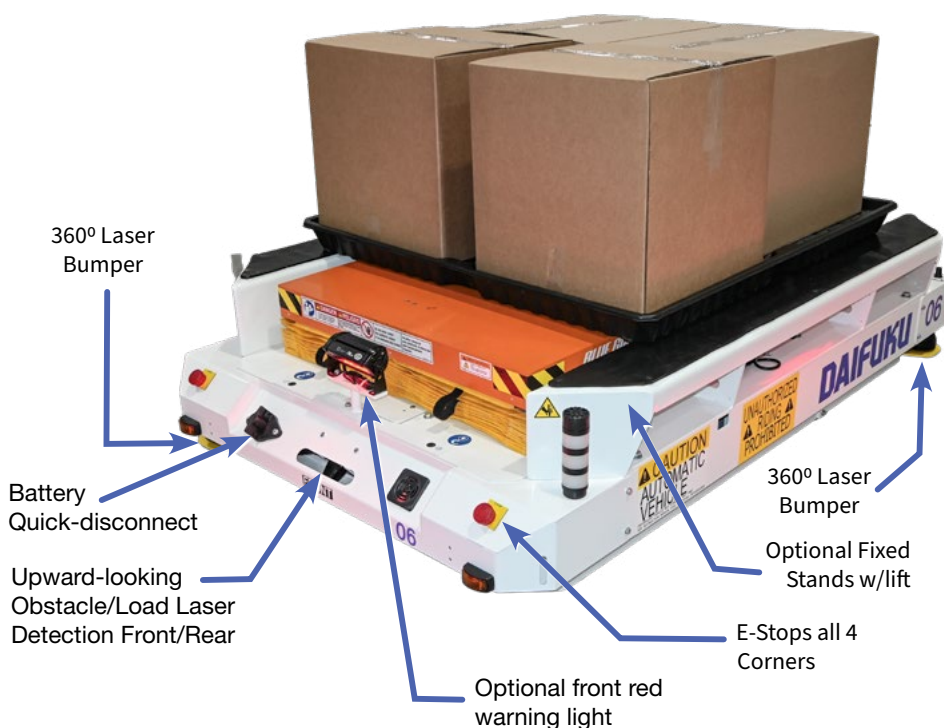
**Robust:** The M500-U follows our decades of experience building rugged AGVs suited to industrial environments.

**Safe:** The M500-U offers 360 degree laser bumpers + 2 additional (upward looking front/rear) lasers to detect obstructions and personnel.

**Efficient:** Highly efficient AC drives powered by optional lithium batteries for fast charging and long life. Automatic charging supports 24/7 operation.

**Connected:** With Daifuku's System Automation Manager™ (SAM) software providing traffic control and fleet coordination, AGV operations may be integrated with Plant Control and Warehouse Management Systems.

**Simple:** CartTools™ and AGV Tools software provide a user-friendly interface to implement/ make changes.



*Vehicle shown with the following options:  
Scissor lift, fixed platforms, and red warning lights on all sides.*

### NAVIGATION OPTIONS

#### Natural Feature Navigation (NFN):

The AGV determines its location using LIDAR to identify structures in the environment and match their locations to a virtual map of the facility.

**Inertial Navigation:** Odometry data and in-floor waypoints are used by the vehicle computer to determine location.

**Co-Navigation Technology:** Multiple navigation packages may be used on a vehicle in challenging environments.

#### FEATURES

- Automatic Charging, 140 amps
- Warning Light/Horn
- Automatic Shut off
- Music Generator

#### OPTIONS

- Sleep/Auto-wake
- Lithium Battery Pack
- 360° Floor Warning Lights Front, Rear and Sides

## Smart Handling AGV Solutions

### General Specifications

Weight with batteries	2000 lbs (909 kg)
Dimensions:	W: 48" (1219 mm) L: 78.6" (1996 mm) H: 11.25" (286 mm)
Capacity:	5000 lbs (2268 kg) max, flat deck base unit 4000 lbs (1814 kg) max, conveyor deck option 4000 lbs (1814 kg) max, lift deck option; H: 18.25" (464 mm)
Safety	ANSI B56.5 laser bumpers all sides
Speed – 6 Selectable	15 FPM (4.5MPM) to 240 FPM (73 MPM) with inertial or up to 360 FPM (109 MPM) with natural feature navigation 1 FPM (.025 MPM) increments
Pedestrian Awareness	Flashing light and horn, per ANSI B56.5
Battery Power	24VDC
Battery Pack Options	AGM/TPPL 204 AH, 300,000 AH life Lithium 180 AH, 1,200,000 AH life
Automatic Charge	140 amp charge rate
Manual Charge	Up to 25 amp charge rate

### Environment

Atmosphere	0 to 40° C, 25% to 95% non-condensing humidity
Dust/Water-proof	No
Floor Specs – Edges/Debris	.25" (6.35 mm) abrupt elevation change maximum, smoothed
Expansion Joints	.25" (6.35 mm) minimum
Friction	0.6 coefficient of friction between wheels and floor, minimum
Floor Conductivity	Static dissipative, less than $3.5 \times 10^7 \Omega$
Radio Communications	Wi-Fi 5

### Detailed Specifications

Drive Direction	Automatic Forward and Reverse
Duty Cycle	100% @ Maximum Load Rating
Drive Type	Gear driven fixed
Motors	1 kw AC
Brakes	Static-electric, 8 Nm, spring actuated (fail-safe) with manual release
Drive Wheels – 2	Wheel 9.8" dia. X 3.2" (250 mm X 80 mm) Polyurethane 92 Shore A
Load Wheels – 4	Swivel Caster 5.9" dia (150 mm) Shore A, durometer 95
Navigation	Natural Feature Navigation, and/or Inertial
Drive Wheel Sensor Encoders	Yes, absolute multi-turn encoders
Steering / Stopping Accuracy	+/- .5" (12.7 mm)
HMI Display	5.7" (145 mm) color touch screen – errors & destinations
Manual Movement	Pendant – via pendant plug receptacle
Minimum Path Radius	0
Pivot Turn Capable	Yes
Drive Stalled Detection	Yes
Distance Initiated Functions	Yes – in 1" (25.4 mm) increments
Program Method	PC and Wireless
Obstacle Detection	360°, programmable up to 9' (2.8 meters)
Emergency Stop	4 – Corners



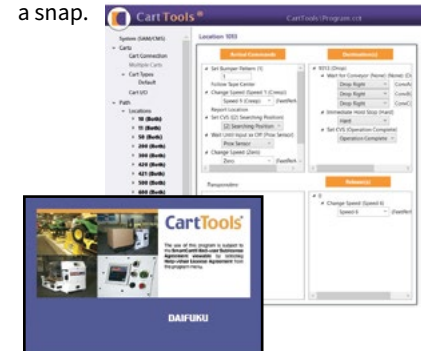
Conveyor Deck Option



Flat Deck Option

### CARTTOOLS SOFTWARE

Simple, standardized toolbox of commands that make configuration a snap.



REAR VIEW