

# M500-U

Unit Load  
2268 kg 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.

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

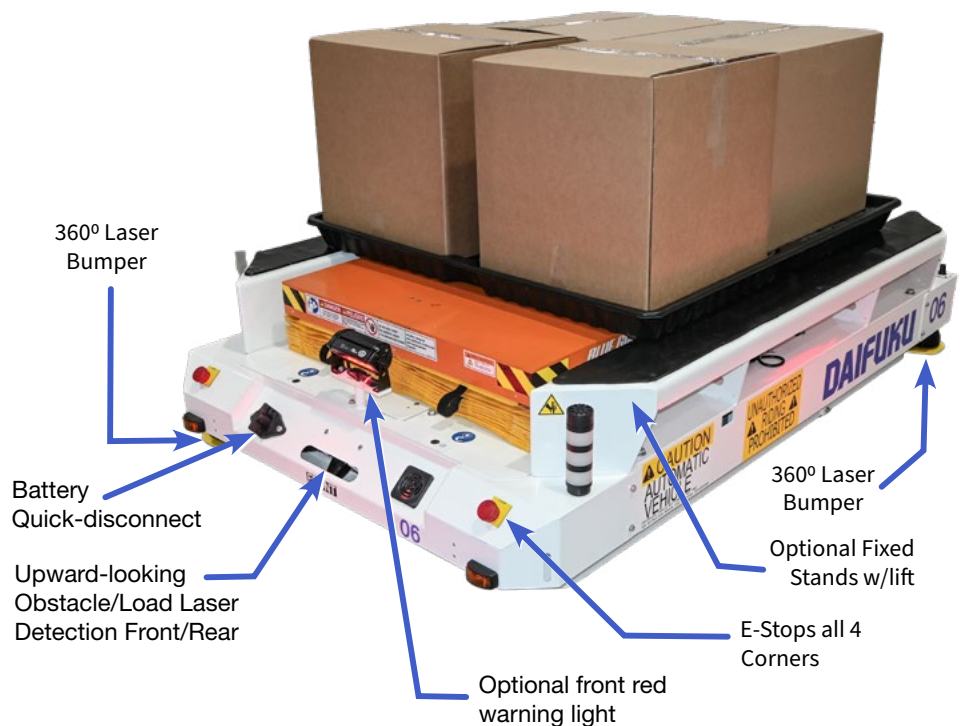
**Robust:** The M500-U follows our decades of experience building rugged AGVs suited to industrial environments.

**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

**Natural Feature Navigation (NFN):** Environmental feature data is collected by on-vehicle sensors and used by the vehicle computer to determine location.

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

Either NFN or Inertial can be used as the sole navigation method or they can be combined for challenging environments.

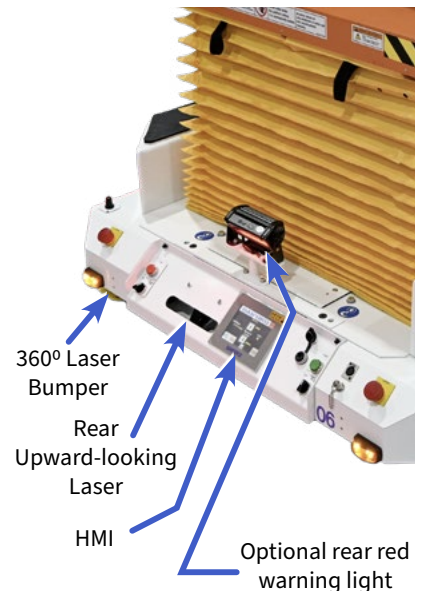
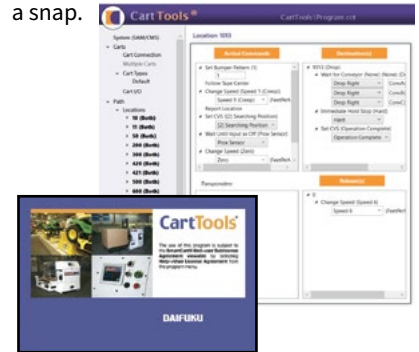
## FEATURES AND OPTIONS

- Automatic Charging, 140 amps
- Wi-fi Communications 802.11 a/b/g/n/ac
- Wi-fi 6E
- 360° Red Warning Lights front, rear, and sides
- Automatic Shut Off
- Sleep/Auto-wake
- Warning Light/Horn
- Music Generator
- Lithium Battery Pack

General Specifications	
Weight with batteries	907 kg
Dimensions:	W: 1219 mm L: 1995 mm H: 286 mm
Capacity:	2268 kg max, flat deck base unit 1814 kg max, conveyor deck option 1814 kg max, lift deck option; H: 464 mm
Safety	ANSI B56.5 laser bumpers all sides
Speed – 6 Selectable	4.6mpm to 73 mpm with inertial or up to 109 mpm with natural feature navigation .03 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	6.4 mm abrupt elevation change maximum, smoothed
Expansion Joints	6.4 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	IEEE 802.11a/b/g/n/ac standard Wi-fi 6E available
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 250 mm dia. X 80 mm Polyurethane 92 Shore A
Load Wheels – 4	Swivel Caster 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	+/- 12.7 mm
HMI Display	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 25.4 mm increments
Program Method	PC and Wireless
Obstacle Detection	360°, programmable up to 2.8 meters
Emergency Stop	4 – Corners
Wiring	Per CE/UKCA ampacity guidelines

### CARTTOOLS SOFTWARE

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



REAR VIEW

**System Automation Manager – (SAM)** is a robust, easily-configured control system option for Automatic Guided Vehicles (AGVs) and SmartCart® Automatic Guided Carts (AGCs). SAM is the result of more than 60 years of experience engineering, manufacturing and installing more than 20,000 vehicles. SAM's framework can be easily customized to meet our customers' individual needs and improve the efficiency of our AGV and AGC systems.

