

U1500

Omni-directional Unit Load 1,500 kg Carry Capacity

The Model U1500 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 with conveyor deck. This AGV is highly maneuverable with center rotate and omnidirectional 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.

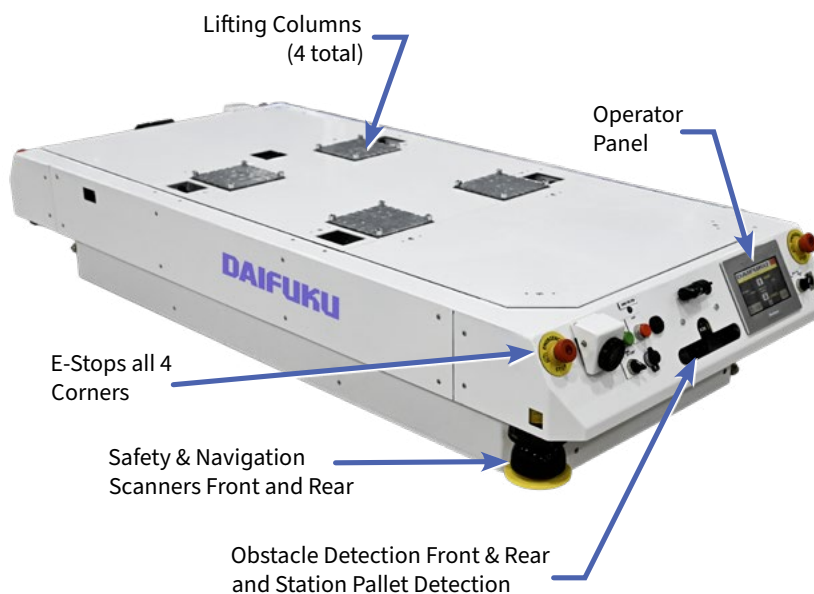
Robust: The U1500 follows our decades of experience building rugged AGVs suited to industrial environments.

Safe: The U1500 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.



NAVIGATION

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: The above navigation solutions can be used standalone or combined to address challenging navigational environments.

FEATURES

OPTIONS

- Automatic Charging
- Warning Light/Horn
- Automatic Shut off
- Music Generator
- Sleep/Auto-wake

- Floor Warning Lights Front and Rear
- Conveyor Deck
- All electric column lifts with 270 mm stroke

Smart Handling AGV Solutions

smarthandling.com

General Specifications

Weight with batteries	523 kg (1150 lbs) plus 30 kg (66 lbs) for lifts
Dimensions:	W: 889 mm (35") L: 1956 mm (77") H: 365 mm (14.37")
Capacity:	1500 kg (3300 lbs) with all-electric lift (U1500-OL) 1500 kg (3300 lbs) with conveyor option (U1500-OC) 2000 kg (4400 lbs) flat platform w/o lift (U1500-OP)
Safety	ANSI B56.5 laser bumpers all sides
Speed	4.5MPM (15 FPM) up to 109 MPM (360 FPM)
Pedestrian Awareness	Flashing light and horn, per ANSI B56.5
Battery Power	24VDC
Battery Pack Options	90 AH TPPL-AGM 90, 120, or 200 AH Lithium (LiFePO4)
Automatic Charge	80 amp charge rate (140 amp with 200 AH battery pack)
Manual Charge	Up to 25 amp charge rate

Environment

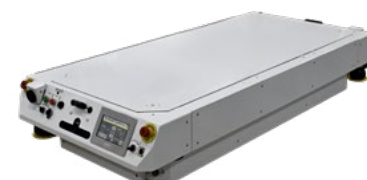
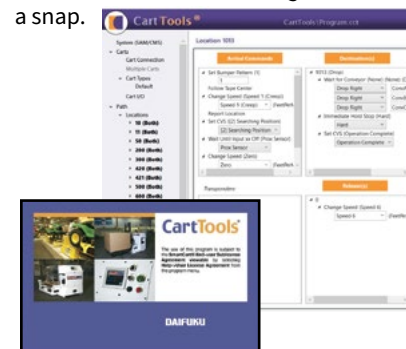
Atmosphere	0 to 40° C, 25% to 95% non-condensing humidity
IP Rating	31
Floor Specs – Edges/Debris	6.35 mm (.25") abrupt elevation change maximum, smoothed
Expansion Joints	6.35 mm (.25") minimum
Friction	0.6 coefficient of friction between wheels and floor, minimum
Floor Conductivity	Static dissipative, less than $3.5 \times 10^7 \Omega$
Radio Communications	Wi-Fi 6/6e VDA 5050 Compliant

Detailed Specifications

Drive Direction	Automatic omnidirectional
Duty Cycle	100% @ Maximum Load Rating
Drive Type	Gear driven fixed differential
Motors	Two 1 kw AC
Brakes	Static-electric, 10 Nm, spring actuated (fail-safe) with manual release
Drive Wheels – 2	Vulkollan 210 mm dia. x 70 mm wide
Load Wheels – 2	Swivel Caster 150 mm dia (5.9") Shore A, durometer 95
Navigation	Natural Feature Navigation, and/or Inertial
Drive Wheel Sensor Encoders	Yes, absolute multi-turn encoders
Steering / Stopping Accuracy	+/- 13 mm (.5")
HMI Display	178 mm (7") 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 mm (1") increments
Program Method	PC and Wireless
Obstacle Detection	360°, programmable up to 2.8 meters (9')
Emergency Stop	4 – Corners

AGV SOFTWARE

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



**Flat Platform Option
U1500-OP**



**Conveyor Deck Option
U1500-OC**



270 mm column lifts fully extended



Column lifts retracted

U1500-OL