

Automatic Guided Vehicles

M10K-T Tugger

10,000 lbs Towing Capacity

The Model M10K-T is a tugger vehicle capable of automatic or manual driving mode, when the need for human interaction is required. With a capacity of 10,000 lbs (4500 kg) the M10K-T is Daifuku's mid-range towing AGV.

Full digital interface enables easy manual operation at the flick of a switch.

FEATURES

Safe: The M10K-T includes 6 laser scanners to detect obstructions and personnel.

Efficient: The M10K-T is battery powered and charges automatically, yielding up to 24/7 fully automatic operation.

Connected: Integrates with Plant Control Systems via Wi-Fi communications and System Automation Manager™ (SAM) software providing traffic control.

Affordable: Many applications can demonstrate Return On Investment in three months or less.

Simple: CartTools™ and AGV Tools software provide a user-friendly interface, allowing the customer to modify and expand their systems.



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.

Laser Navigation: Field of reflective targets seen by on-vehicle sensors and used by vehicle computer to determine location.

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

NAVIGATION ENHANCEMENTS

Enhanced Navigation: Additional sensors can be added to augment the vehicle's navigation technology.

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

FEATURES

- Automatic Charging (Pull In)
- Warning Light/Horn
- Automatic Shut off
- Music Generator

OPTIONS

- Sleep/Auto-wake
- Front & Rear Event Camera
- Automatic Couple/Uncouple
- Pull Through Charging

Smart Handling
AGV Solutions

General Specifications

Weight / with batteries	1,400 lbs (635 kg) / 2,600 lbs (1179 kg)
Dimensions	W: 42.8" (1087 mm) L: 65" (1651 mm) H: 89" (2134 mm)
Traction Power	200 lbs (91 kg) constant, 300+ lbs (136 kg) starting
Safety	ANSI B56.5 - 2019 compliant
Speed – 6 speeds	15 FPM (4.5 MPM) to 360 FPM (109 MPM), 1 FPM (.025 MPM) increments
Battery Options	24VDC
Battery weight min/max	855 lbs (388 kg) / 1550 lbs (703 kg)
Lithium Battery 420AH LiFe PO ₄	
Lithium Battery 630AH LiFe PO ₄	
Lithium Battery 840AH LiFe PO ₄	
Lead Acid Battery 558 AH TPPL	
Automatic Charge	300 amp charge rate
Manual Charge	Up to 82 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
Grade Rating	3%
Friction	0.6 coefficient of friction between wheels and floor, minimum
Floor Conductivity	Static dissipative, less than $3.5 \times 10^7 \Omega$
Radio Communication	Wi-Fi 5

Detailed Specifications

Drive Direction – Automatic	Forward and Reverse (if equipped)
Duty Cycle	88% @ Maximum Load Rating
Drive Unit – Wheel	Poly - 10" dia X 4" wide (254 mm X 102 mm) Poly
Drive Type	Gear driven steerable turntable
Motor	3.8 kw AC
Brake	Spring actuated (fail-safe)
Rear Wheels	Poly 7" dia x 3" wide (178 X 76 mm) (Shore A, durometer 85)
Navigation	Natural Feature Navigation, Laser and Inertial
Steer Angle Sensor Encoder	Yes
Steering /Stopping Accuracy	+/- .5" (12.7 mm)
HMI Display	5.7" (145 mm) color touch screen – errors & destinations
Event Camera	Front/rear, 1080P, supports up to 128GB microSD card
Manual Movement	Steerhead - Operator-aboard
Minimum Path Radius	4' (1219 mm) @ 100 FPM (30 MPM), 8' (2438 mm) @ 160 FPM (48 MPM)
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 26' (8 m)
Emergency Stop	2 – Left/Right side

CARTTOOLS SOFTWARE

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

