

M10K-T

Hybrid Tugger

10,000 Lbs Towing Capacity

The Model M10K-T is a hybrid AGV that can go full auto (for fully automatic operation on a predictable transport path) or full manual, when the need for human interaction off of the standard route or process routine is required. With a capacity of 10,000 pound (4500 kg) the M10K-T makes it one of the most powerful hybrid towing options available.

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

FEATURES

Safe: The M10K-T offers (4) 16-pattern laser scanners to detect obstructions and personnel, with additional sensing to detect above the laser scanners range.

Efficient: The M10K-T operates on battery power, while also automatically charging, yielding up to 24/7 fully automatic operation.

Integration: Can integrate 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.



NAVIGATION OPTIONS

Natural Feature Navigation (NFN):

Environmental feature data is collected by on-vehicle sensors and used by the vehicle computer to determine location.

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 AND OPTIONS

- Automatic Couple/Uncouple
- Wi-fi Communications 802.11 a/b/g
- Automatic Charging, 300 amps
- Front & Rear Video Camera
- Sleep/Auto-wake
- Warning Light/Horn
- Blue Warning Light

General Specifications	
Weight / with batteries	1,400 lbs (635 kg) / 2,600 lbs (1179 kg)
Dimensions	W: 36" (920 mm) L: 65" (1651 mm) H: 56" (1420 mm)
Traction Power	200 lbs constant, 300+ lbs starting
Safety – Front Laser Bumper	ANSI B56.5 compliant bumper (16 Pattern) X 2
Speed	15 to 360 FPM, (240 FPM with magnetic tape) 6 speeds, 1 FPM increments
Battery Options	24VDC
Battery weight min/max	(855lbs / 1550lbs)
- 510 AH lead acid	Charge rate 140 amp - Standard Option
- 450 AH sealed AGM gel	Charge rate 140 amp - Standard Option
- 558 AH TPPL	Charge rate to 300 amp
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	¼" abrupt elevation change maximum, smoothed
Expansion Joints	¼" maximum
Grade Rating	3%
Friction	0.6 coefficient of friction between wheels and floor, minimum
Floor Conductivity	Static dissipative, less than 3.5 x 10 ⁷ Ω
Radio Communication	IEEE 802.11a/b/g standard

Detailed Specifications	
Drive Direction – Automatic	Forward and Reverse (if equipped)
Duty Cycle	88% @ Maximum Load Rating
Drive Unit – Wheel	10" X 4" (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" diameter x 3" wide (178 X 76 mm) (Shore A, durometer 85)
Navigation	Daifuku AGV – Natural Feature Navigation, Laser and Inertial
Steer Angle Sensor Encoder	Yes
Steering /Stopping Accuracy	+/- ½"
HMI Display	5.7" color touch screen – errors & destinations
Video Camera	Front/rear, 1080P, supports up to 128GB microSD card
Manual Movement	Steerhead - Operator- aboard
Minimum Path Radius	4' @ 100 FPM, 8' @ 160 FPM
Drive Stalled Detection	Yes
Distance Initiated Functions	Yes – in 1" increments
Program Method	PC and Wireless
Obstacle Detection	360°, programmable up to 2.8 meters
Emergency Stop	2 – Left/Right side
Wiring	Per NEC ampacity guidelines

