

DAIFUKU | AUTOMATIC GUIDED VEHICLES

M10K-T Hybrid Tugger 10,000 Lbs Towing Capacity

Introducing the newest entry into our robust line of automatic guided vehicles... the M10K-T. This workhorse is a hybrid AGV combining our standard technology with an operator-ride option. This AGV 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.

The 10,000 pound (4500 kg) towing capacity of 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: For safety, the M10K-T has as standard 16 pattern laser to detect obstructions of operators and objects in its path.

A single forward/backward looking camera is standard that records vehicle operation, providing asset protection and operator/vehicle accountability.

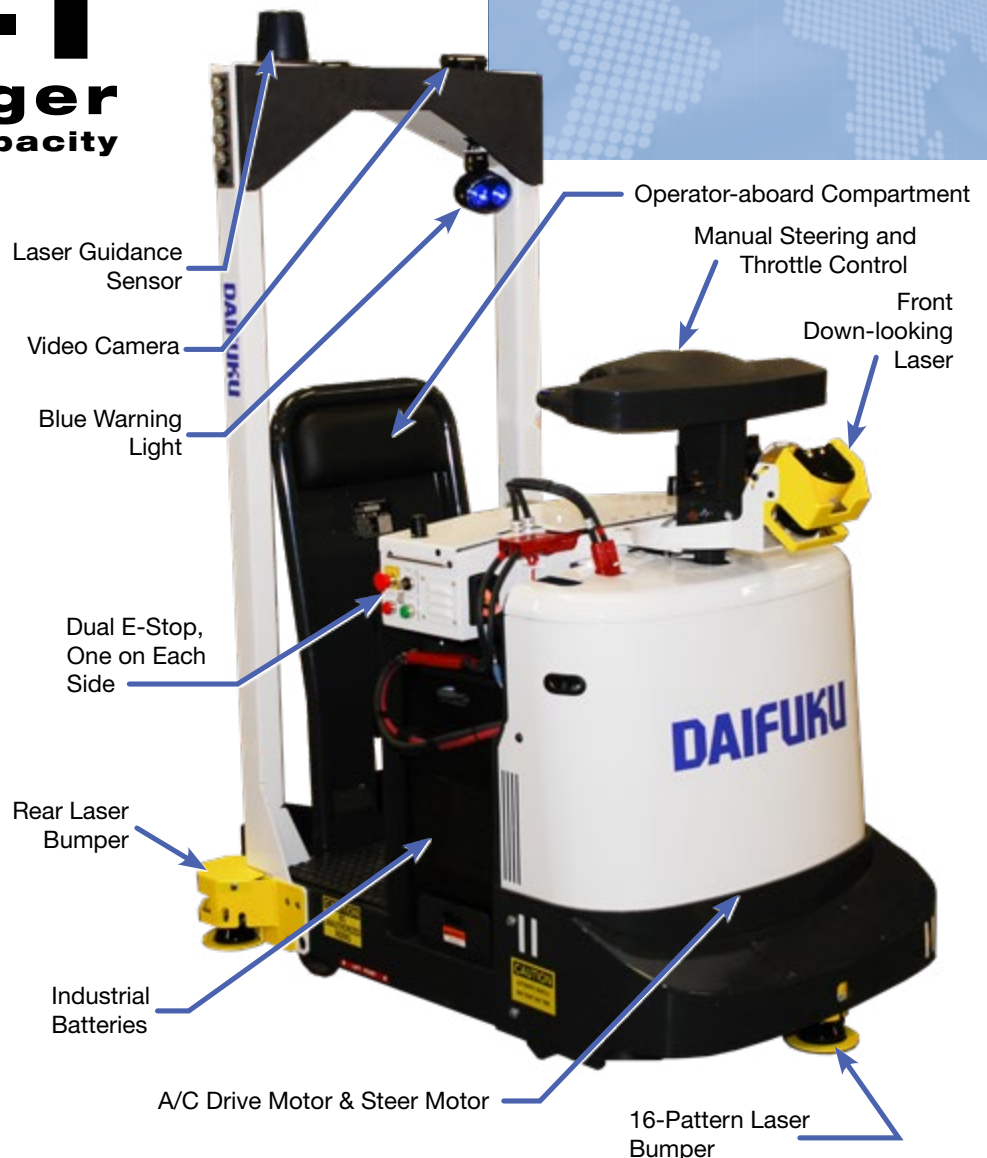
Efficient: The M10K-T operates on battery power, using the optional automatic charging it can be operational 24/7.

Integration: If desired, with standard radio communication with Webb's System Automation Manager™ (SAM) Software can provide Traffic Control and Interface with Plant Control System. Functions include Auto Transports and Bus Routes.

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

Simple: CartTools® software provides a user friendly interface to implement/make changes.

Hands-Off: Automatic charging to allow 24/7 hands-off operation or manual charging that can run 6-16+ hours.



STANDARD FEATURES:

- Laser Guidance
- Automatic Uncouple
- Music Generator
- Automatic Charging to 300 amp
- Jaw Hitch w/foot release
- Radio Communication 802.11 a/b/g
- Warning Horn – Forward/Reverse
- Blue Warning Light

- Front Down-looking Safety Laser
- Stack Light
- Video Camera

OPTIONAL FEATURES:

- Automatic Couple w/ laser bumper
- Lower cost magnetic tape guidance with RFID transponder location in or on the floor.

DAIFUKU **AUTOMATIC GUIDED VEHICLES**

General Specifications	
Weight / with batteries	1400 lbs (635 kg) / 2600 lbs (1179 kg)
Dimensions	W: 36" (920 mm) L: 65" (1651mm) H: 56" (1420 mm)
Traction Power	200 lbs constant, 300+ lbs starting
Safety – Front Laser Bumper	ANSI B56.5 compliant bumper (16 Pattern)
Speed	15 to 360 FPM, (240 FPM with magnetic tape) 6 speeds, 1 FPM increments
Battery Options	24VDC 510 AH Lead Acid or 450 AH Gel maintenance free
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	.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 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 76mm) (Shore A, durometer 85)
Guidance - Laser	Daifuku AGV
Steer Angle Sensor Encoder	Yes
Steering /Stopping Accuracy	+/- 1/2"
Guidance – Magnetic	Magnetic Tape/Bar SmartCart option
Steer Angle Sensor	Analog 10 turn potentiometer
Steering Accuracy	± 1" from physical path
Guide Loss Error	Error generated within 6" of path loss
Hunt for Path	Not offered, violates ANSI B56.5
Sensor	16 millisecond data rate, 50 updates per second
SmartSteer Accuracy	± 3" @ 10'
Stopping Accuracy	½" proximity sensor, 1-½" transponder reader @ 30 fpm
Location Method	Transponder tags, 5 data bytes including checksum
	Virtual Locations via distance initiated functions
Program Capacity	5000 program steps
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	180°, programmable up to 2.8 meters
Emergency Stop	2 – Left/Right side
Wiring	Per NEC ampacity guidelines

CartTools® Software – Simple, standardized toolbox of commands that make configuration a snap.



M10K-T SmartCart Magnetic Tape/bar option vehicle



SmartSteer – CartTools directing the AGV to intentionally leave the magnetic tape path. Allowing maneuvers like pivot turns and ignoring floor problems when in full automatic operation.

DAIFUKU

30100 Cabot Drive
Novi, MI 48377
(248) 553-1000 • FAX (248) 553-1200
info@DaifukuNA.com
www.Daifuku.com/us

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* For any applications greater than these specifications, please contact Engineering.