

**SMART CART** | DAIFUKU

# 300TT

**Model 300 Tunnel/Tugger  
4,000 Lbs Max Towing Capacity**

Daifuku's Jervis B. Webb Company continues its 50-year tradition of leading the industry in Automatic Guided Vehicle technology with SmartCart Automatic Guided Cart Model 300TT. The Model 300TT SmartCart is the top-selling AGC offering ultimate flexibility, reliability and scalability at an affordable price.

## FEATURES

**Low Profile:** Designed to "tunnel" under mobile racks and trailers to tow them from underneath. This keeps the footprint of the AGC with trailer to a minimum.

**Safe:** Safety laser scanners provide detection of operators and objects.

**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. Non-invasive magnetic path and RFID transponder locations simplify deployment.

**Industrial:** Steel construction with powder coat and industrial enamel paint.

**On-Floor:** All equipment that needs to be installed to run your system can be installed on the floor, making the installation non-invasive and configurable. In-floor options are also available for ultimate durability.

**Integration:** If desired, standard radio communication options with Webb's System Automation Manager™ (SAM) Software can provide Traffic Control and Interface with Plant Control System.

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



## OPTIONAL FEATURES:

- Reverse Guidance
- 16-Pattern Laser Bumper
- Fast Automatic Charging
- Radio Communication
- Trailer Present Sensor
- Wheel Brushes
- Music Generator

**General Specifications**

Weight / with batteries	860 lbs (390 kg) / 1100 lbs (500 kg) with traction weight
Dimensions	W: 31" (790 mm) L: 78" (1980 mm) H: 14" (355 mm)
Traction Power	80 lbs constant, 160 lbs starting
Safety – Front/rear	ANSI B56.5 compliant bumper
Speed – Laser Bumper	15 to 160 FPM, 6 speeds, 1 FPM increments
Rated Trailer	4,000 lbs ( 1,814 kg) @ 160 FPM With 2% friction factor trailer wheels Capacity reduced by 10% when reversing 1% Incline/Decline 2,600 lbs @ 100 FPM
Battery Options	4 – AGM 105AH 12VDC each, 210AH 24VDC battery pack 4 – AGM/TPPL 102AH 12VDC each, 204AH 24VDC battery pack
Automatic Charge	80 amp charge rate (if equipped)
Fast Automatic Charge	140 amp charge rate (if equipped)
Manual Charge	Up to 25 amp charge rate

**Environment**

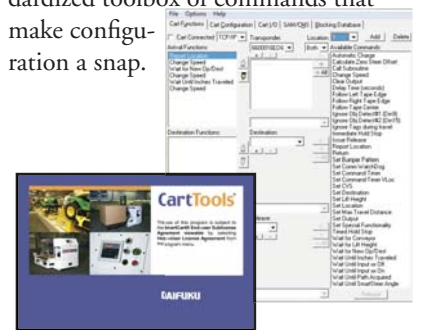
Environment – Atmosphere	0 to 40° C, 25% to 95% non-condensing humidity
Dust/Water-proof	No
Floor Specs – Edges/Debris	¼" abrupt elevation change maximum, smoothed
Expansion Joints	¼" maximum
Grade Rating	0%
Flatness	1% and ¼" variation in 5' or less
Floor Conductivity	.6 coefficient of friction between wheels and floor, minimum
Static Dissipative	Less than 3.5 x 10 <sup>7</sup> Ω
Radio Communication	IEEE 802.11a/b/g, plus security encryption (if equipped)

**Detailed Specifications**

Available Wheel Loading	Front add'l – 500 lbs, Rear add'l – 1000 lbs each Weight added to module is subtracted from rated trailer
Drive Direction – Automatic	Forward and Reverse (if equipped)
Duty Cycle	100% @ 80 lbs drawbar (4,000 lbs)
Drive Unit – Wheel	Vulkolan 210 mm diameter x 70 mm wide
Drive Type	Gear driven steerable turntable
Motor	1000 watts 24VAC
Steering	24 VDC motor
Brake	10Nm, spring actuated (fail-safe)
Caster Wheels	6" diameter x 2" wide
Guidance – Method	Magnetic or SmartSteer navigation
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'
HMI Display	3.5" color touch screen – errors & destinations
Manual Movement	Pendant – via pendant plug receptacle, Rescue dolly
Minimum Path Radius	24" – 90° turn, 48" – 180° turn
Drive Stalled Detection	Yes
Stopping Accuracy	½" proximity sensor, 1-½" transponder reader @ 30 fpm
Distance Initiated Functions	Yes – in 1" increments
Location Method	Transponder tags, 5 data bytes including checksum Virtual Locations via distance initiated functions
Program Method	PC and Wireless (if equipped)
Program Capacity	5000 program steps
Obstacle Detection	180°, programmable up to 2.8 meters
Emergency Stop	Front – standard. Rear included with reverse guidance option
Wiring	Per NEC ampacity guidelines

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

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



Pendant Control – When manual movement is required, it's as simple as driving the AGC where it needs to go. Wireless Bluetooth (optional)



Reverse Guidance – By just adding another guidance sensor and laser bumper, the 300TT can act as a shuttle cart.



SmartSteer – CartTools commanding of the AGC to intentionally leave the path. Allowing maneuvers like pivot turns and ignoring floor problems.



1850C MacArthur Blvd.  
Atlanta, GA 30318  
1-877-355-1511  
Info@condrives.com  
www.condrives.com

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