

# MasterMover®

Worldwide Electric Tug Solutions

## TOW1000 ES

Battery Powered Electric Tow Tugger



## TOW1000 ES

The MasterTow TOW1000 ES electric tow tugger is ideal for towing loads of up to 22,046lbs on castors. With its compact design, the self-weighted tow tugger delivers outstanding traction for effortless load towing and can be used inside and outside, as well as on slopes.

The TOW1000 ES features simple and effective coupling solutions for load security and is capable of moving individual loads or trains of items such as carts or cages.

Take advantage of innovative technology by utilizing a range of Remote Control, Line Follow and AGV (autonomous) options, making the MasterTow TOW1000 ES ideal for a variety of applications.



Side view



Front view



Rear view

## KEY FEATURES



### Safety

- Warning horn, flashing beacon, performance monitoring and emergency safety shut-off
- Machine crawl coupling assist for ease of connection
- Multiple speed settings for control during complex maneuvers

### Performance

- Twin motors with independent traction
- Custom drive code enhance performance
- Automatic brakes capable of stopping and holding loads, even on sloped surfaces
- Direct steer double castor allows operation in tight spaces

### Quality

- FEA certified steel box section chassis and IP44 protection as standard
- Puncture-proof drive wheels
- Lockdown of key safety parameters

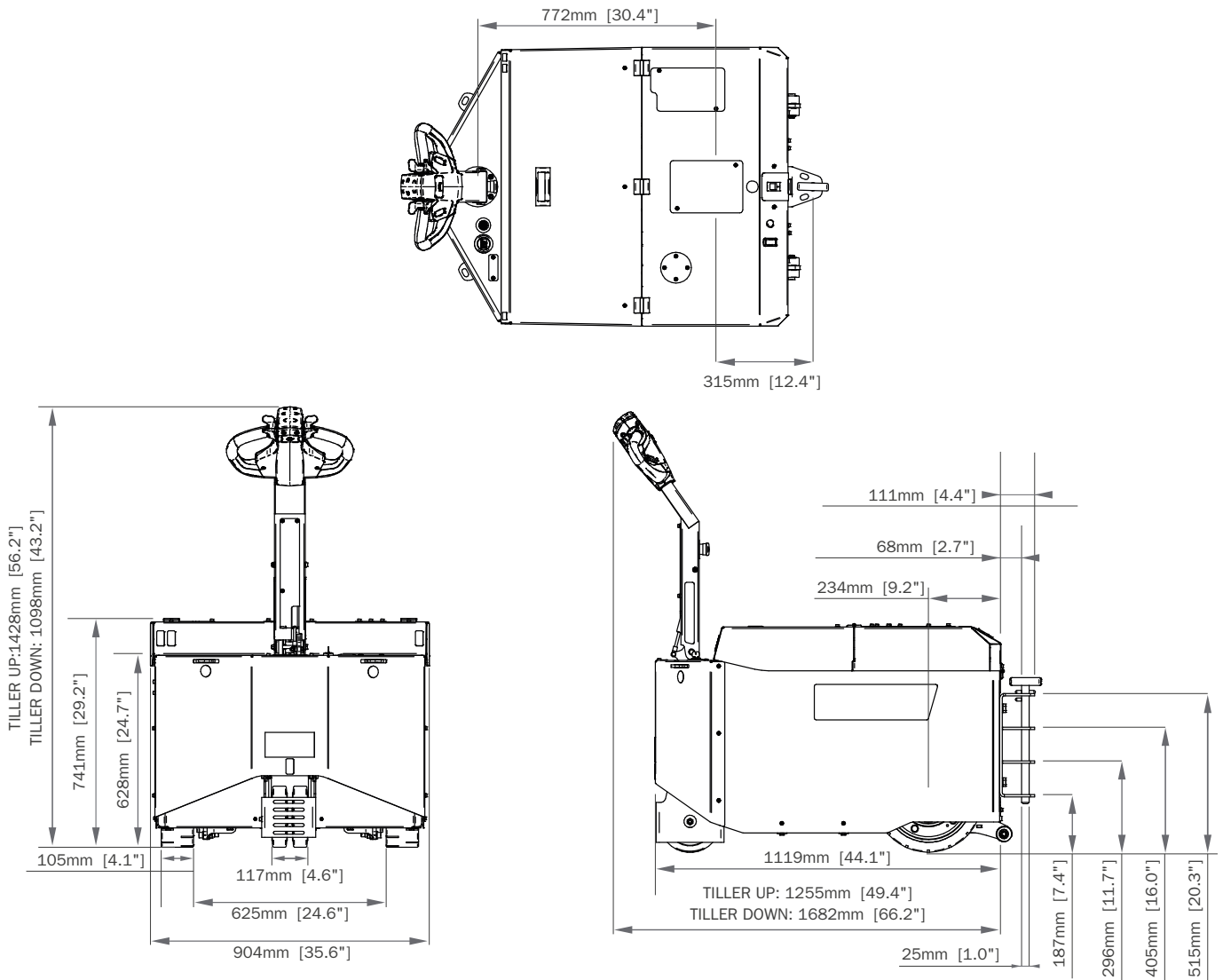
### Power

- Interlocked cast weight packs ensure optimum traction and power output
- Interchangeable maintenance-free AGM batteries allow for 24/7 usage (lithium option available)
- Battery Protection System slows machine and forces charge to prevent battery damage

### Connection

- Removeable and lockable pin coupling for standard draw bar applications
- Ability to work with a wide variety of draw bar heights
- Fifth wheel option to move pivot position directly over the drive wheels, optimizing maneuverability and traction
- Variety of coupling options available

# DIMENSIONS

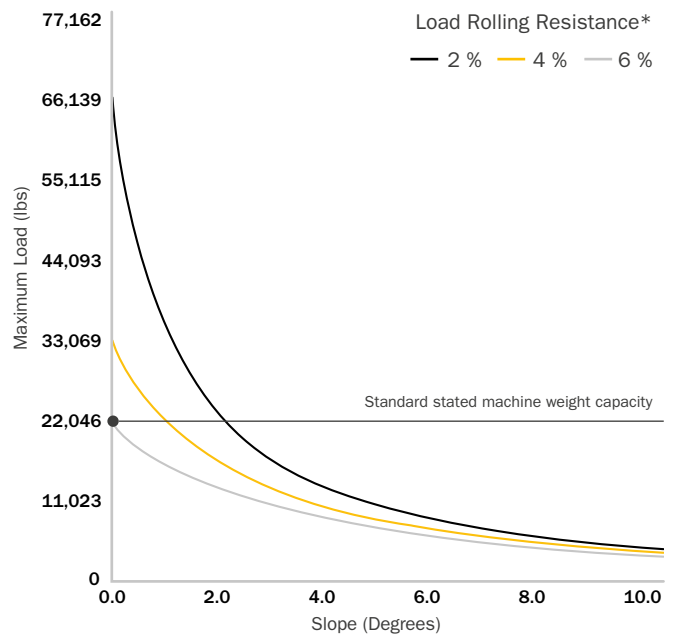


## WIRELESS HANDSET

The ergonomic design of the remote control gives the operator access to the complete range of movement and safety options.



## PERFORMANCE ON SLOPES



\* Other variables that affect load moving capability could include quality of floor/terrain and the type/condition/quality of load wheels.

# COUPLINGS

Pin Coupling  
Z86-00600 male



Tow Ball Coupling  
Z86-00601 male



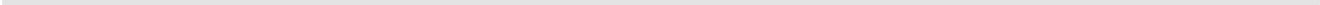
Tow Arm Coupling  
Z86-00602 male



Box Coupling  
Z86-00603 male | Z86-00700 female



No Coupling Z86-00604



## CUSTOM COUPLINGS

Where required, custom coupling solutions can be designed by our in-house Design and Engineering team.

## MACHINE OPTIONS

Flashing Light & Motion Beeper  
Z86-00500



Machine Crawl Coupling Assist  
Z86-00501



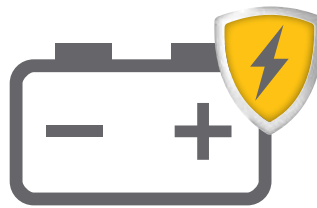
Fifth Wheel  
Z86-00503



Two speed Selector Switch  
Z86-00505



Battery Protection System  
Z86-00506



Remote Control

Z86-00504



Allow your operator to take up the ideal vantage point and step away from the load itself, with remote control operation.

Offering precise and controlled movement, the handset also features a warning horn and emergency stop functions for added safety.

Wireless Autosteer

Z86-00507



Combining the power of remote control operation and line follow navigation, Wireless AutoSteer follows a predefined route marked out by a line on the floor, with the operator controlling the speed with a remote.

A great option for tight spaces and when movement should follow the same route, every time. The machine can still be used through standard manual operation when required.

AGV Line Follow

Z86-00508



Benefit from autonomous operation, and remove the need for operators to move loads. Your electric tugger will autonomously travel between locations, using a line on the floor for navigation.

Barcodes can also be used to change machine behaviors such as to speed up, slow down or stop the machine. Scanners and safety systems identify risks and take appropriate action, restarting movement when a hazard is removed. The machine can still be used through standard manual operation when required.

# SAFETY FEATURES

Key Switch



Emergency Stop Button



Battery Discharge Indicator



Anti-Crush Button



Automatic Parking Brake



Warning Horn



Automatic Cut Off



Lifting Points



Tie-Down Points



# TOW1000 ES TECHNICAL SPECIFICATION

|                   |   |   |
|-------------------|---|---|
| Machine           | Z Code  | Z86-00100   |
|                   | Maximum load (on castors)                               | 22,046 lbs  |
|                   | Maximum push force                                      | 3,923 N   |
|                   | Maximum pull force                                      | 5,884 N   |
|                   | Combined machine & battery weight                       | 2,262 lbs   |
|                   | Drive type  | Electric  |
|                   | Braking   | Regenerative  |
|                   | Parking brake   | Electromagnetic   |
|                   | Drive wheel type  | Solid Rubber  |
|                   | Castor wheel type                                       | Non Marking vulcanized elastic  |
|                   | Drive motor power                                       | 2 x 1.5 kW  |
|                   | Controller type   | AC  |
|                   | Standard machine speed                                  | 1.2 mph   |
|                   | Hare mode speed<br>(With two speed selector switch)     | 1.9 mph   |
|                   | Tortoise mode speed<br>(With two speed selector switch) | 0.7 mph   |
|                   | Maximum possible machine speed                          | 3.7 mph   |
|                   | Maximum slope   | 8°  |
|                   | Voltage   | 24 v  |
|                   | Noise level   | Motor ≤80 dBA<br>Flashing light ≤85 dBA<br>Horn ≤112 dBA  |
|                   | Metal work finish                                       | Powder coat paint & zinc plate  |
| IP rating         | IP44  |   |
| Wheel             | Wheel diameter  | 350 mm  |
|                   | Point loading   | Drive Wheel 0.047 (kg/mm <sup>2</sup> ) 0.46 [N/mm <sup>2</sup> ]<br>Castor 0.061 (kg/mm <sup>2</sup> ) 0.59 [N/mm <sup>2</sup> ] |
| AGM Battery       | Z codes   | Z86-00301   |
|                   | Battery pack capacity                                   | 204 Ah  |
|                   | Maximum distance per charge*                            | 6.3 miles   |
|                   | Charge time (External charger)                          | 7 hrs 30 mins   |
|                   | Charge time (Internal charger)                          | 10 hrs 30 mins  |
| External Charging | Input voltage   | 85 - 265 v  |
|                   | Hertz   | 50 - 60 Hz  |
|                   | Amps  | 30 A  |
|                   | Phase (single, three)                                   | Single  |
|                   | IP Rating   | IP30  |
| Internal Charging | Input voltage   | 85 - 265 v  |
|                   | Hertz   | 50 - 60 Hz  |
|                   | Amps  | 20 A  |
|                   | Phase (single, three)                                   | Single  |
|                   | IP rating   | IP30  |

# TOW1000 ES TECHNICAL SPECIFICATION

|                   |   |            |
|-------------------|---|------------|
| Lithium Battery   | Z code  | Z86-00302  |
|                   | Battery pack capacity                                 | 120 Ah     |
|                   | Maximum distance per charge*                          | 3.7 miles  |
|                   | Charge time (External charger)                        | 3 hrs      |
| External Charging | Input voltage   | 85 - 265 v |
|                   | Hertz   | 50 - 60 Hz |
|                   | Amps  | 40 A       |
|                   | Phase (single, three)                                 | Single     |
|                   | IP rating   | IP30       |
| Coupling          | Pin Coupling (male)                                   | Optional   |
|                   | Tow Ball Coupling (male)                              | Optional   |
|                   | Tow Arm Coupling (male)                               | Optional   |
|                   | Box Coupling (male   female)                          | Optional   |
|                   | No Coupling   | Optional   |
| Safety            | Key Switch  | Standard   |
|                   | Emergency Stop  | Standard   |
|                   | Battery Discharge Indicator                           | Standard   |
|                   | Anti-Crush Button                                     | Standard   |
|                   | Automatic Parking Brake                               | Standard   |
|                   | Warning Horn  | Standard   |
|                   | Automatic Cut Off (as tiller arm returns to vertical) | Standard   |
|                   | Integrated Lift Points                                | Standard   |
|                   | Integrated Tie-Down Points                            | Standard   |
| Options           | Flashing Safety Light and Motion Bleeper              | Optional   |
|                   | Machine Crawl Coupling Assist                         | Optional   |
|                   | Fifth Wheel   | Optional   |
|                   | Two Speed Selector Switch                             | Optional   |
|                   | Battery Protection System                             | Optional   |
|                   | Remote Control  | Optional   |
|                   | Wireless Autosteer                                    | Optional   |
| AGV Line Follow   | Optional  |            |

\* Based on 75% of maximum machine load weight on a flat floor on castors.