

# PTM C130 Portable Tower

## Description

The PTM C130 tower system combines the features of our PTM-100 tower with a multi-function trailer transport system offering different deployment modes. The system can be transported either as a complete system on a C130 cargo plane (or larger) or separated into two assemblies that facilitate transport with two helicopter lifts.

To meet the requirements of a helicopter lift, the front and rear wheel trolleys detach from the central tower unit with removable pinned connections. The front and rear trolleys can be separated from the central tower unit and pinned together into a single transport trailer, independent from the central tower unit.

By itself, the central tower unit can also be deployed as a pallet tower system, secured to an appropriate foundation or on a customer trailer or truck. To provide for this option, the central tower unit consists of an extra heavy frame to assure effective force transfer.

Once appropriately deployed, the trailer based tower will rise to a height of 80 feet (24.38 meters) in 5 minutes or less. The tower's rigidity and stability is facilitated by an integrated solid interlocking tower lattice that rises from a robust trailer supported by leveling jacks, and stabilizing outriggers. This tower unit can be operated un-guyed in many applications.

## Specifications

### The Tower

- Height:** Maximum tower height of the tower payload mounting bracket is 80 feet (24.38 meters) above the ground as deployed from a trailer mount, with stowed height of 11 feet (3.35 meters). The tower can be stopped and utilized at any desired height between its stowed and maximum height.
- Payload:** Maximum tower payload capacity is application dependent. For most applications, however, the payload is established at 2,000 pounds (907 kg) for an 80 feet (24.38 meters) tower height.



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**Construction:** The tower lattice chain sections are constructed of 6061-T6 aluminum extrusions assembled with robust bolts and rivets. During deployment, heavy cast stainless steel hooks engage and rigidly attach the individual tower sections together in the triangular shape. Key tower technologies are protected by patents.

Heavy mounting brackets are provided as standard equipment at the top of each of the three tower corners for attaching customers' equipment using ½ inch (1.27 cm) diameter bolts.

**Deployment  
& Retraction  
Speed:**

From the towers stowed height, an electric motor/gear drive system will self-erect the tower to a height of 80 feet (24.38 meters) in approximately 5 minutes "at the push of a button". By releasing the button, the tower can be stopped (and held by the brake) for payload utilization at any height between the stowed and maximum limits.

**Drive:**

Choice between an AC or DC electric tower drive motor is offered, both of which include a heavy duty brake, rated for severe conditions. No active power is required once the tower sections have been raised to the desired height as the tower is automatically secured by the brake.

**Power  
Source:**

For tower operation, an appropriate AC or DC electrical power source is required, only when raising or lowering the tower. This source may be customer supplied power or one of Tower Solutions' available power options.

**Emergency  
Crank Down:**

The tower is equipped with an emergency, manual crank down or up system. If conditions permit, a customer supplied battery-powered electric drill can be substituted for the crank.

**Enclosures:** All electrical controls are enclosed in drip proof enclosures.

An optional lockable cabinet type enclosure over the entire tower frame is available. This enclosure protects the bales, cable reels and other components from the environment and fully encloses the three tower section bales, which rotate slowly within the tower frame.

**Standard  
Leveling  
System:**

A level sensing system notifies the operator with an indicator light when the unit is level within +/- 1 degree. Level bubble units located at each corner of the trailer facilitate the unit leveling process.

Each unit is leveled with four heavy duty drop-leg leveling jacks attached to the trailer frame.

**Tower  
Control  
System:**

Tower deployment or retraction is actuated by UP and DOWN buttons located on a corded remote control pendant attached to the main electrical control box. A 25 foot (7.62 meter) long pendant control cord allows operators to strategically position themselves during deployment and retraction the tower.

**Access  
Catwalk  
and Ladder:**

Standard access to the customer equipment-payload on a retracted tower is provided by a non-skid catwalk. This catwalk offers access from the back side of the payload from a rear mounted ladder on the trailer.

## The Outrigger System

**Description:** The outrigger system consists of four tubular assemblies that attach to the corners of the tower trailer frame and extend jacks out 14 feet (4.27 meters) diagonally from the tower vertical centerline, creating a 16'-8" x 22' (5.08 x 6.7 meters) support pattern.

The outriggers are easily assembled on-site as part of the unit set-up. The outrigger system can accommodate a +/- 18 inch (46 cm) variance in ground surfaces. When not in use, the outriggers are stored in brackets on the exterior of the tower frame.

## The Transport System

**Description:** The PTM C130 system consists of the central tower unit mounted on an adjustable and removable dual-trolley transport system. This multi-function capability offers different transportation modes and loading capabilities.

The trolley transport system consists of independent front and rear wheeled trolleys pinned to the central tower unit. The height of the central tower unit can be adjusted (raised or lowered) to facilitate loading the system into a C130 or larger aircraft cargo hold. Separate crank mechanisms on each trolley allow independent adjustment of the front or rear of the central tower unit.

When removed from the trolleys, robust lifting lugs on the central tower unit can be employed for a helicopter lift deployment. Pinning the two trolleys together (without the central tower unit) offers independent deployment as a street-legal towable trailer or, along with the central tower unit, by air through a second helicopter lift.

Once separated tower frame and the trolley transport assemblies have reached their

destination, the trolleys can be quickly re-attached to the tower frame for ground deployment as a trailer based system.

To facilitate towing maneuverability, the front trolley towing tongue attaches to a narrow-wheeled front axle which articulates about a king-pin swivel. The C130 has fully integrated connectors on the vehicle lighting system (tail, running, turn, and brake lights), operation in any mode, along with safety chains for vehicle towing.

## General Features

### **Color:**

The standard unit is delivered with the trailer and mechanism painted commercial grade desert tan and the tower sections in natural aluminum. Standard product identification, instructional, safety and operational information decals are strategically applied to the unit for operator convenience and safety.

### **Overall Size And Weight:**

**Fully Assembled System:** The C130 tower system (tower frame plus front and rear trolleys) has an approximate footprint of 8 feet – 2 inches (2.49 meters) x 20 inches (6.1 meters) with a 10 foot (3.05 meter) height, excluding payload. Excluding customer payload, the weight is approximately 12,500 pounds (5,670 kg).

**Central Tower Unit:** The central tower unit has an approximate footprint of 8 feet – 2 inches (2.49 meters) x 11 feet – 6 inches (3.51 meters) with a height of 8 feet (2.44 meters), excluding payload. Excluding customer payload, the weight is approximately 9,500 pounds (4,309 kg).

**Trolley Transport Unit:** The front and rear trolleys, pinned together, have an approximate footprint of 8 feet – 2 inches (2.49 meters) wide x 8 feet – 4 inches (2.54 meters) long with a height of 5 feet (1.52 meters). Excluding customer payload, the weight is approximately 3,000 pounds (1,361 kg).

## **Options**

Options are available to meet specific customer requirements.