

MANTIS Aircraft Tug

The MANTIS aircraft tug is an off-the-shelf product designed specifically for ship's deck and ground handling of military helicopters and fighter aircraft. It provides the capability to maneuver helicopters and fixed wing aircraft within the confines of a flight deck or shipboard hangar space or a ground apron to support shore-based maintenance activities. Offering fast, precise control from an umbilical-connected operator chest pack, the MANTIS fits wholly within the aircraft footprint to permit high precision, high parking densities and make the best use of valuable parking space. The operator has full visibility of all points of the aircraft and surrounding area while carrying out the maneuvering operation.



The MANTIS interfaces directly with the aircraft, using our unique matrix head, and with no requirement for tow bars or airframe modifications. The low-profile design and resultant under-fuselage clearance allows the handling of a wide range of helicopters and fixed wing aircraft in both land-based and marine operations. The unit will operate with aircraft that have deflated tires or collapsed oleos, and with nose installed radomes.

The electrically operated MANTIS tug provides significant continuous operating time with high payload aircraft from a single charge of its purpose-designed batteries. Traction management, regenerative braking and charging are all computer-managed and require no operator intervention. Digital speed 'ramping' during acceleration and deceleration operations maintains aircraft loadings within design limits. Careful material selection ensures long life and reliability in both land-based and marine embarked operations.

The MANTIS has the ability to drive in four directions and spin on the spot around the tow point. This maneuverability and electric operation does not emit fumes and also makes it suitable for use in land based maintenance facilities.

| Function | Description |
|-----------------|---|
| Recovery Assist | Standard deck cues and line up; lines 100% free-deck landing |
| Capture Area | Maneuvers to aircraft landing spot |
| Maneuvering | Achieved via operator control of MANTIS Turning circle of 0 metres |
| Traversing | Self-propelled; relies on frictional force between MANTIS unit and deck surface |

| Performance/ Specifications | Description |
|-----------------------------|---|
| Capture Time | 11 seconds |
| Traverse Speed | Variable 0 to 1.2 m/sec [4.2 km/hr] |
| Operational Envelope | Ship and helicopter specific |
| Manpower Requirements | One MANTIS unit system operator using umbilical chest pack control module |

| Physical Characteristics | Description |
|--------------------------|---|
| System Configurations | Single and double configurations available All equipment typically mounted at flight deck level |
| Power Requirements | High frequency transformer charging Unit - Primary 96 to 260 VAC input 3.5 hours continuous operation on a single charge with 18,000 kg a/c |
| Steering | 2 steer wheels in base unit MANTIS, 4 wheel steer with Mantis ELP |