

TowFLEX[®]

Aircraft Toweasy



TOWBARLESS REMOTE CONTROLLED AIRCRAFT TUGS



SERIES

4





FOR AIRCRAFT UP TO 30.000LBS /14.000KG

FACTS

- Easy Handling
- Remote Controlled
- Towbarless
- One Person Operation
- No Driving License required
- Quick Load & Release of Nose Wheel
- All Electrical - No Hydraulics
- Practically Maintenance Free
- Extreme low Operating Costs
- Applicable for a wide Variety of Aircraft
- Enables to utilize all Hangar Space
- patented 360° Technology
- Turning an Aircraft on the Spot
- More Flexibility



TURNING THE AIRCRAFT ON THE SPOT

Moving an aircraft the conventional way with a tug and towbar or a traditional towbarless tug, requires a lot of space. In order to steer the aircraft, considerable movement is required. Turning the nose gear can only be achieved by moving the aircraft forward or back.



Extreme caution is required to prevent nose gear oversteering and to avoid damage to the sensitive nose wheel landing gear. The aircraft must be moved several yards before the nose gear can be turned and to steer in a new direction. This conventional method requires significant space during aircraft maneuvering.



TURN ANY AIRCRAFT LITERALLY ON THE SPOT

That's revolutionary, highly innovative, unique and unmatched compared to any other product in the market. Towing and maneuvering aircraft with TowFLEX[®] is easy, much safer, and definitely the smartest and most advanced method of handling fixed wing aircraft and helicopter.

MOVING THE TUG WITHOUT TURNING THE NOSEWHEEL

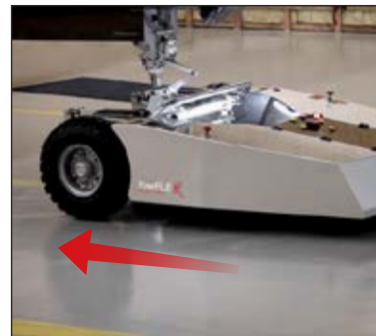




To operate the best way possible, the TF4 comes with several supporting features, helping you and the people around to stay safe and make your groundhandling experience not only efficient but fun!

FEATURES

- Preventing Nose Gear Damage with 360° Technology
- Turn the Aircraft without turning the Nose Gear
- Quick Coupling & Decoupling
- Easy to handle Remote Control
- Intelligent Microprocessor Motor & Speed Control
- LED Lighting Front & Rear
- LED Lighting Nose Gear Cradle
- High Capacity Battery Pack with long Service Life
- Extended Charging Cycle Time
- Extreme low Maintenance
- Environmentally friendly
- No Exhaust
- Silent
- Fast and easy to operate
- Weatherproof
- Up to two Years Warranty



approach the gear



close the gate & lift the wheel - loading time: 12 seconds



Use all the available space - park your aircraft right on the wall



CONVENTIONAL

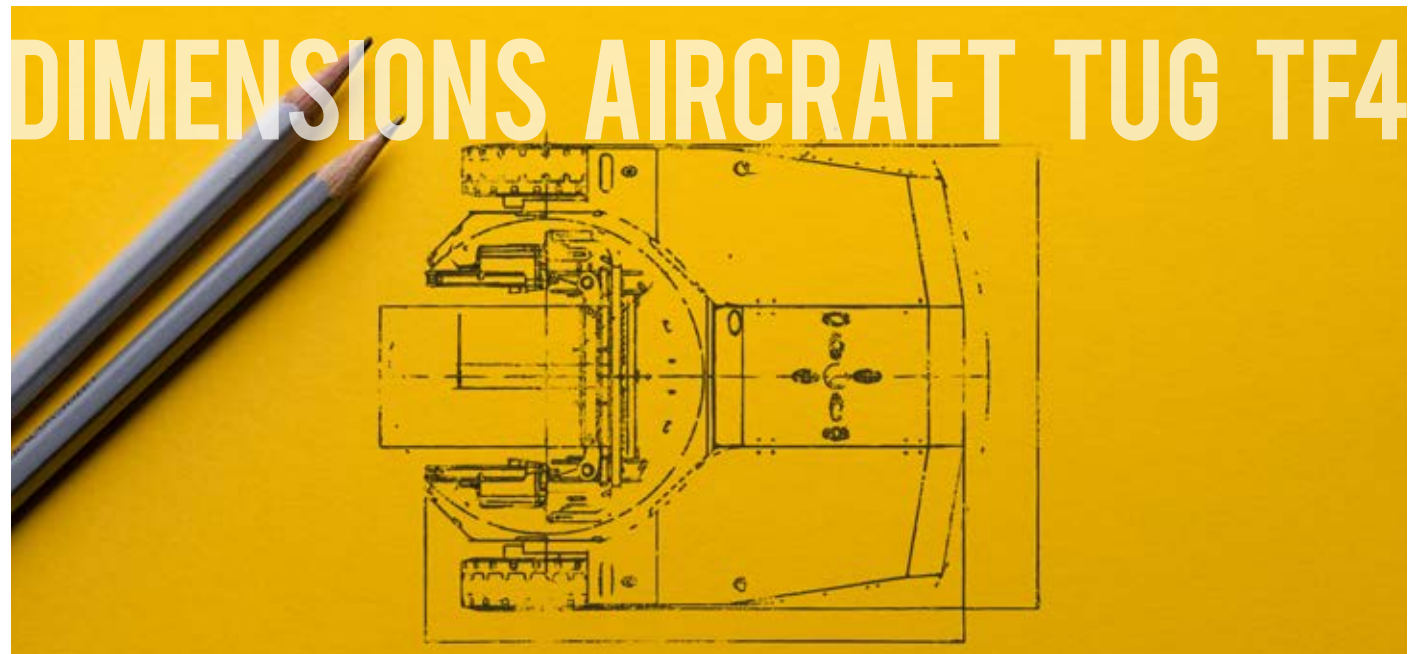
WITH TOWFLEX

TowFLEX® technology can help you to significantly increase the number of aircraft you can place in any hangar.

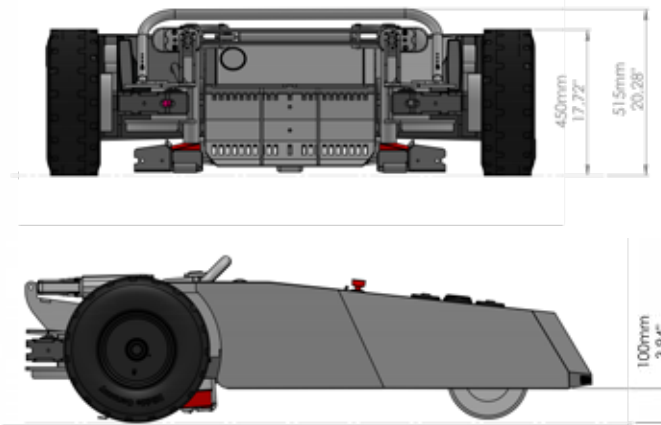
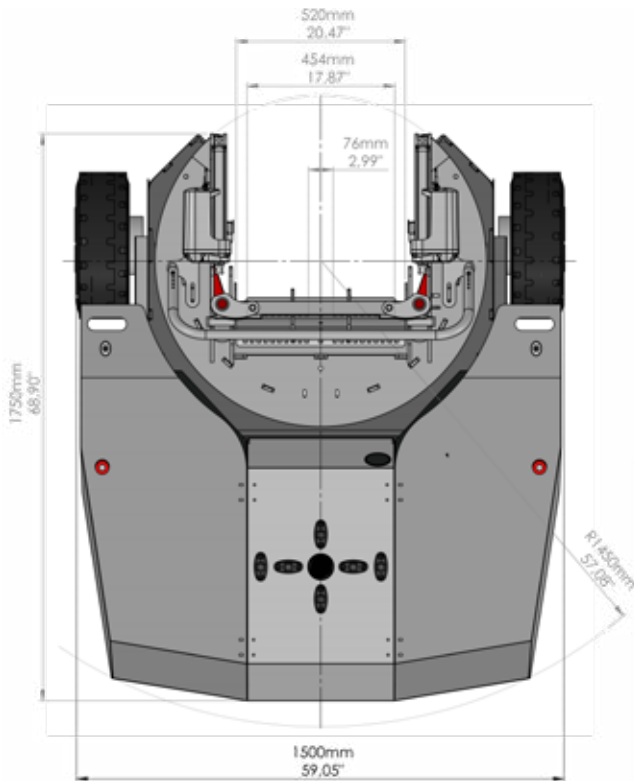
The highly flexible and versatile towing system can create up to 40% additional hangar space, generating additional revenue for the hangar owner/ operator.

**IMPROVED EFFICIENCY
MAXIMIZED SAFETY
INCREASED PROFIT**





LOW PROFILE DESIGN FOR MORE FLEXIBILITY



PROFESSIONAL PACKAGING

The TF4 will be delivered in a customized wooden box. Once the box is opened and the tug unstrapped, the TF4 is ready to operate! The only thing what's left to do: maneuvering the tug out of the box.



*For a more detailed unboxing-manual just contact us



AIRCRAFT

- Cessna Citation up to XLS+
- Cessna C680
- Syber Jet
- Pilatus PC-12 and PC-24
- Phenom 100
- Phenom 300
- Learjet
- Gulfstream G150
- Hawker 400 - 800
- Piaggio P180 Avanti
- King Air
- Dornier DO-228
- Jetstream
- Embraer EMB

+ all aircraft for the 3 series

HELICOPTER

- Agusta
- Airbus Heli
- Sikorsky

+ most helicopters for the 3 series



WORKSWITH



FITS MOST AIRCRAFT UP TO 30.000LBS

*This is just an excerpt of possible aircraft to work with. There is no special connection between the mentioned manufacturers and towflexx



All Towflexx-products are designed to work in every weather condition. Whether it is dry and hot, mild and wet or extremely cold, your tug will be ready. Our systems are equipped with all terrain tires to provide the best traction possible. The electrical systems are sealed to prevent the intrusion of water and dust. Additionally all steel and metal parts are treated against corrosion.

OPTIONS

The TowFLEXX® TF4-Series is available with following options:

- Extended Wheel Lift Arms for very large Nose WheelTires (e.g. some King Air and Others)
- Enlarged Battery Pack
- Custom color option
- Customized control settings
- Snow Chain

Please consult with us to determine the best and most suitable configuration option for your aircraft.



Vehicle Drive System	Twin electrical 2 x powerful high-torque Rotary Drive Gear Motor, 24V, 1.400W each, total 2.800W DC effective power, IP44
Motor Drive Control System	Motor Speed Control Inverter with integrated diagnostics & variable speed control, 320A
Transmission	Advanced and robust Multi-Speed Parallel Shaft Gear Transmission
Steering	Via motor control, extremely maneuverable and intelligently programmed. Steering is performed through different Rotating Speed Signals directed to both micro processor-controlled wheel motors. These microprocessors carefully control the torque proportionally to each of the drive wheels
Brake System	Multi-Stage regenerative, decelerating and electromagnetic Brake System. At the moment the motor comes to a stop, the electro-magnetic brake is automatically activated (Inherent Resistance)
Drive Tires	Optimum Tread Depth Multi-Terrain Heavy Duty Wheels for best traction, 18 x 7-8 (2.3 tons bearing load each) 10 Bar
Front Wheel	2 x Heavy Duty Puncture Proof Caster Wheel, height 305 mm, (12") solid center 80 mm (3.15")
Batteries	Set of 2 x 200Ah maintenance-free Deep Cycle Lead-Gel Battery Pack incl. short circuit protection
Battery Charger	Advanced Timer Circuit Battery Charger for uninterrupted service incl. auto shutdown function, 120-230V, 900W, 37.5A
GPU	24V Power Socket to supply power to optional Accessories
Nose Gear Lift Capacity	1.500 kg / 3.300 lbs (Max. 13.200 lbs.)
Max Towing Capacity / Aircraft MTOW	14.000 kg / 30.000 lbs MTOW 24.950 kg / 55.000 lbs Tractive Power
Width of Wheel	500mm (19,68")
Depth of Wheel	400mm (15,75")
Time to load & fix Aircraft in	10 Seconds
Remote Control Technology	Lightweight Waterproof Remote Control to „pilot“ the ROTV's movement and actions, easy to use, incl. failsafe frequency spread spectrum technology (standard 902 - 928 Mz) approved for airport operation
Vehicle Lighting (Front & Rear)	Energy saving, but strong LED Headlights illuminating driving direction (front & rear)
Working Lights	Energy saving LED Illumination for the coupling and aircraft interface area
Safety Light	Energy saving LED Amber Blinking Light

Drive / Movement Signal / Beeper	Impulse activated and via remote control shiftable - Included
Electric Safety Features	Triple E-Stop Safety Feature with direct battery connector switch
Drive Direction Indicator	All Direction Indicator LED Lights
Overall Length	1.800 mm (70.87")
Overall Width	1.500 mm (59.06")
Overall Height	450 mm (17.72") / Cross Bracket 510mm (20.08")
Wheel Base	1.350 mm (53.15") Drive Wheels, one Center Support Wheel
Ground Clearance	100 mm (3.94")
Turning Radius	1490 mm (58.66")
Nose Gear Cradle / Bracket Lifting Height	110 mm (4.33")
Shipping Weight including Batteries	600 kg (1.320 lbs)
Speed Empty	6 km/h (3.83 miles/h) controlled
Speed Loaded	4 km/h (2.49 miles/h) controlled
Range in km and Miles	Approx. 3 km (1.87 miles) in step
Battery Capacity / Service Time in Days and Hours	2 - 3 days in step depending on workload and average usage (4 hours continuously at full load)
Operating Temperature (Range from - to +)	-15°C to +50°C
Operating Humidity (up to max Relative Humidity in %)	Max 90% Relative Humidity
Construction	Heavy Duty Chassis and Steel Construction with welded Steel Plate and Polymers protected by Powder Primer and top-rated automotive High-Gloss Enamel Paint with high quality protective Polyurethane Coating to prevent rust, scratches and corrosion. Sturdy, rugged, and durable design with industrial strength for commercial use and applications
Standard Color	Light Grey - Anthracite, and Dark Blue Metal-lic, galvanized (custom colors are optionally available)
Applicable for Aircraft	Wide range of aircraft. Please consult to obtain specific aircraft confirmation.
Warranty	Up to 2 Years Limited Warranty

COMPLIANCE

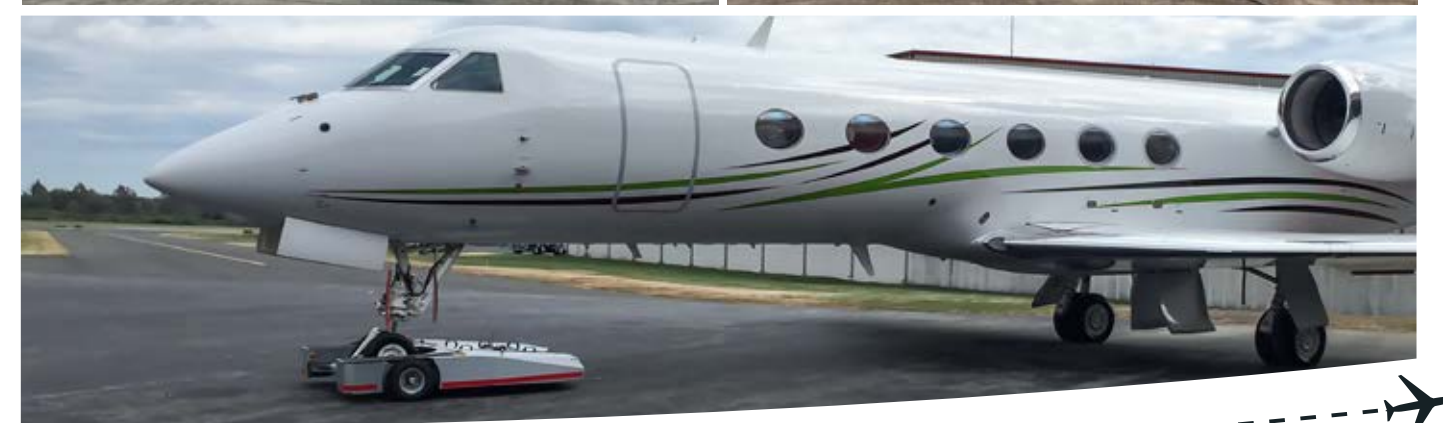
Compliant with all applicable Norms & Regulations. Product meets and exceeds all Standards in its respective Classification. Radio Control conforms to EU CE and US FCC Regulations





	TF2	TF3	TF4	TF5
Load	up to 4 tons 8.800lbs	up to 9 tons 20.000lbs	up to 14 tons 30.000lbs	up to 60 tons 132.000lbs
Aircraft Type	Airplanes & Robinson Helicopters	Airplanes & Helicopters with Nosewheel	Airplanes & Helicopters with Nosewheel / twin tires	Airplanes & Helicopters with Nosewheel / twin tires
Power	500W	2.200W	2.800W	10.000W
Handling	manually	Remote Control	Remote Control	Remote Control
360° Axis	-	yes	yes	yes
Wheeladjustment	manually	universal	universal	mechanical
Tiller Control	yes	not required	not required	not required
Battery life	around 3km / 1.9mi	around 5km / 3.1mi	around 8km / 5mi	around 8km / 5mi
12V Socket	yes	optional	optional	optional
Front-/Backlight	front	back	front & back	front & back
Time to load Aircraft	5 - 10 Seconds	3 Seconds	12 Seconds	20 Seconds
Ground Power Supply	24V	24V	24V	optional
Weight	70kg / 154lbs	350kg / 770lbs	600kg / 1.323lbs	1.900kg / 4.189lbs
Dimensions (WxLxH)	520 x 1700 x 700mm 20,47" x 66,93" x 27,56"	1200 x 1600 x 450mm 47,24" x 62,99" x 17,71"	1500 x 1800 x 510mm 59,06" x 70,87" x 20,08"	1900 x 2600 x 500mm 74,80" x 102,36" x 19,69"

All listed units are available in custom configurations. To check if your aircraft fits, please check our website or consult us. Modifications to service, construction and material within the framework of technical progress remain reserved, without the customer being able to derive rights therefrom.





MADE IN ONE OF THE MOST MODERN FACTORIES



TowFLEX® tow equipment and ground handling systems are advanced German engineered products, applying latest technologies, unmatched quality and precision.

Our ultra modern high-tech factory is the best example of cost-effective high-quality manufacturing. It is one of the most modern factory floors of its kind, like a Swiss watch, with the same level of precision.

A high degree of automation with a multitude of other advanced manufacturing technologies, including laser cutting, innovative combined bonding and welding.

The factory follows production methods that sets the standard for world-class manufacturing facilities.



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**AMERICAN - GERMAN ENGINEERING
TECHNOLOGY YOU CAN TRUST**

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