

BY PANUS

# BLISS-FOX



**DESIGNED TO PERFORM**

# ABOUT US

Bliss-Fox Panus GSE are the manufacturers of a wide range of GSE products and services for aviation ground support providers to help them provide an outstanding operational service to their airline customers. We have a long history of over 55 years of designing and manufacturing a wide range of push back tractors including our A380 capable FOX-70D model. Over the years we have added to our product range in order to provide our valued customers with customized solutions from their trusted supplier.

Following the acquisition of Bliss-Fox by Panus Assembly in 2014, we have not only increased our product range we have expanded our service offerings to include the refurbishment of GSE, rental and lease options, on-site maintenance support and a dedicated customer care team of experts to provide highly effective technical and spare parts support to maximize the operational up time of GSE.

Providing local support is a strategic aim of Bliss-Fox to enable us to provide the most comprehensive after sales support to our customers. In 2017 Bliss-Fox Malaysia was established to meet the growing demand in the Malaysian and Indonesian markets. A dedicated team based in Kuala Lumpur provides immediate parts and technical support, backed up by the full weight of support by the factory based team in Thailand. In 2019 Bliss-Fox opened additional local support centers in Korea and the Philippines.

Recent years has seen Bliss-Fox ramp up its efforts to develop its green product line of electrically powered GSE. In 2019 Bliss-Fox developed electrically powered aircraft pushback tractors for its 15t and 28t range with more products to following in 2021. The latest design development is our innovative modular chassis and body that can be fitted with either a fossil fuel engine and drive train or an electric power pack. This maximizes commonality of structural parts, enhances production throughput and makes it very easy to upgrade from diesel to electric in the future to help customers meet their green ambitions.



# BLISS-FOX ETHOS

## Guiding Principles

Bliss-Fox is guided by 5 principles that underpin our commitment to provide personalised service offerings to our customers and deliver equipment that is safe, fit for purpose, reliable, well-supported and cost effective.

1. We listen and act upon the voice of the customer
2. We build strong partnerships with our customers
3. We deliver against our promises
4. We commit to delivering a best in class after sales service
5. We continuously innovate and improve our products

Our people are the beating heart of Bliss-Fox; safety, respect for each other and the environment, integrity, teamwork and continuous improvement are all embedded in the way we think and work. We are one team, passionate about what we do and aligned in our efforts to serve our customers.



# OUR GLOBAL NETWORK



**MR.SIMONE LIVRAGI**  
SALES & MARKETING  
SENIOR MANAGER



**MR.STEVE BARILLA**  
SENIOR SERVICE MANAGER



## AIRCRAFT TRACTORS



## BAGGAGE AND CARGO TRACTORS











# Our Products

BY PRINUS  
BLISS-FOX

## OTHER GSE



# TRACTOR MODEL VS AIRCRAFT TYPE

	ATR42/72,BAE146,E170-190/CRJ A320,B737,A321	T204,B757/C130MIL,A400M MIL A310,A300,B767-2,B767-3,IL-76	B767-4,IL-86,B787-8,A330/B787-9 C1-17MIL,A340-200/300,A350-9 IL-96/MD11	A350-10,B777ER-LR-F-X A340-500/600	B747-4/C5MIL B747-8	A380
M.T.O.W	100T	200T	300T	400T	500T	600T
<b>BLISS-FOX TRACTOR MODELS</b>	 <p>FOX-8D   6-8T M.T.O.W : 60T</p> <p>FOX-8E   6-8T M.T.O.W : 60T</p>					
	 <p>FOX-16D   12-15T M.T.O.W : 150T</p> <p>FOX-16E   12-16T M.T.O.W : 150T</p>					
	 <p>FOX-28D   24-28T M.T.O.W : 260T</p>					
	 <p>FOX-30E   30T M.T.O.W : 260T</p>					
	 <p>FOX-40E   40T M.T.O.W : 350T</p> <p>FOX-40D   35-40T M.T.O.W : 390T</p>					
	 <p>FOX-50D   45-50T M.T.O.W : 500T</p>					
	 <p>FOX-70D   54-70T M.T.O.W : 560T</p>					



## BAGGAGE TRACTOR

MODEL: FOX-4D



The FOX-4D Baggage Tractor is the workhorse of our GSE range; with 500 units in operation it's durability and reliability is well proven. It's ideal for hauling a train of carts/dollies up to 40 Tonnes and also for pushing back several regional aircrafts.

This tractor is available as a standard 3.5 Tonnes with options for additional ballast up to 5 Tonnes, full cabin, air conditioning and hydraulically actuated tow hitch.



MODEL: FOX-4E



The FOX-4E is the electric version of the F1-40 with lithium batteries from Italy.

Like the diesel version the Fox-4E is available as a standard 3.5 to 4.5 Tonnes with options for full cabin, air conditioning and hydraulically actuated tow hitch.



**MODEL: FOX-8D 6-8 TONNES** 

The Bliss-Fox Fox-8D cargo and small aircraft pushback tractor is available as a standard 6 Tonnes base model with options for additional 2 Tonnes of ballast, canopy or fully enclosed cabin and air conditioning.

This tractor is ideal for towing heavy cargo loads and for pushing back narrow body regional aircraft up to 60 tonnes.

**MODEL: FOX-8E 6-8 TONNES** 

The FOX 8E Aircraft Tractor is designed for both pushback and extended towing of aircraft up to 60 tonnes. Ideally suited for pushback & towing of all regional aircrafts with power to spare.

This modern styled, unique tractor is available as a standard 6 Tonnes base model with options for additional 2 Tonnes of ballast and hot/cold air conditioning.





## MODEL: FOX-16D 12-16 TONNES

The Fox-16D Aircraft Tractor is designed for both push back and extended towing of aircraft from 100-150 Tonnes.

The Fox-16D is purpose built with all narrow body aircraft in mind, including all A32 family, B737 , B757 aircraft.

This modern styled, tractor is available as a standard 12 Tonnes base model with options for additional 4 Tonnes of ballast, with or without cabin and air conditioning if the cabin option is chosen. And add a line space between the 16D and 16E narrative.

## MODEL: FOX-16E 12-16 TONNES

The FOX 16E Aircraft Tractor is designed for both pushback and extended towing of aircraft up to 150 tonnes. Ideally suited for pushback & towing of all A321 & B737 family aircrafts with power to spare, 120 kW (160hp) Electric Motor with 700 Nm of torque.



## MODEL: FOX-30D 24-28 TONNES

The Fox-30D Aircraft Tractor was designed for both push back and extended towing of aircraft from 220-265 Tonnes.

The Fox-30D has a wide capability range and is Ideally suited for push back & towing of all A320 , B737 , B757, B767, B787 A330, A350 aircraft.

This 24-28 Tonnes tractor has the same standard composite cabin as others in the pushback range and comes as 24 Tonnes base model with options for additional 4 Tonnes of ballast, with or without cabin and air-conditioning if cabin option is chosen. This model can be converted from diesel to electric.





- Variable Torque no transmission
- Lithium battery pack for 6 hours operations  
(40 min charging time with 100 Amps power source)
- Very lower maintenance and service costs
- No Jerking, smooth operation
- Zero Emissions
- Very low vehicle noise

### MODEL: FOX-30E 30 TONNES



The Bliss-Fox Fox-30E tractor is purpose designed for maneuvering aircraft to meeting the latest requirements of the aviation ground operations industry.

The Tractor is fully capable of pushing and towing aircraft up to 300 Tonnes, this means up to and including the A350 family.

Being fully electric, the tractor provides many advantages over the existing diesel tractors. especially in reducing carbon footprint and total cost of ownership (TCO).

The tractor is equipped with real time diagnostic system on a touchscreen.

The cabin is fully insulated and made of composite material which provides better insulation for cold and hot weather conditions.

**MODEL: FOX-40D 35-40 TONNES** 

The Bliss-Fox Fox-40D Aircraft Tractor is designed for both push back and extended towing of aircraft up to 360 Tonnes.

Drop in ballast into the FOX-40D easily transforms the tractor from a standard 35 Tonnes for A330 & B787 up to 40 Tonnes for A350 & B777 with no obstruction to the operators' line of sight

The FOX-40D features a 200KW Diesel Engine with 1100 Nm of Torque. This modern styled, unique tractor can be converted from diesel to electric.



## MODEL: FOX-40E 40 TONNES

The Bliss-Fox Fox-40E tractor is purpose designed for maneuvering aircraft to meeting the latest requirements of the aviation ground operations industry.

The tractor is fully capable of pushing and towing aircraft up to 380 Tons, this means up to and including all the B777 family.

Being fully electric, the tractor provides many advantages over the existing diesel tractors. especially in reducing carbon footprint and total cost of ownership (TCO).

The tractor is equipped with real time diagnostic system on a touchscreen.

The cabin is fully insulated and made of composite material which provides protection for cold and hot weather conditions.

## MODEL: FOX-50D 45-50 TONNES

The Bliss-Fox Fox-50D Aircraft Tractor is designed for both push back and extended towing of aircraft up to 460 Tonnes (B747-8).

Drop in ballast in the FOX-50D easily transforms the tractor from a standard 45 Tonnes for A340 & B777 up to 50 Tonnes for B747-8 with no obstruction to the operators' line of sight.



- Variable Torque no transmission
- Lithium battery pack for 6 hours operations (40 min charging time with 100 Amps power source)
- Very lower maintenance and service costs
- No Jerking , smooth operation
- Zero Emissions
- Very low vehicle noise

**MODEL: FOX-70D 54-70 TONNES**

The Bliss-Fox Fox-70D Aircraft Tractor is designed for both push back and extended towing of aircraft up to 600 Tonnes (A380-800).

Drop-in ballast into the FOX-70D to easily transform the tractor from a standard 54 Tonnes for A340 & B747 up to 70 Tonnes for A380-800 with no obstruction to the operators' line of sight.

The F1-500 features a 330kW diesel engine with 2080 Nm of Torque. This tractor is built on our exclusive integral perimeter frame chassis.



The Fox-70D is easy to maintain with simple lift off covers surrounding the oversized engine bay and easy to operate with a fully enclosed cabin, extra wide doors and optional hot/cold air conditioning.

PASSENGER STAIR



**PASSENGER BOARDING STAIR VEHICLE**

**DIESEL** and **ELECTRIC**



**MODEL: PBSV**

THE PBS (V) is designed in structure with a canopy made of steel and aluminum. It's mounted on a truck chassis like the ISUZU or any other according to customer needs.



## PASSENGER BOARDING STAIR TOWABLE

### MODEL: **PBST**

The PST is purpose built with the popular short haul aircraft, Ideally suited for Service of all A320 & B737 aircraft its available also for all types wide body aircrafts.

It can be towed without any drive, with diesel engine and with an electric drive.  
Other options are available for this model.





## WATER AND LAVATORY SERVICE TRUCK

**DIESEL** and **ELECTRIC**  
**MODEL: 1000-3000L**



The Bliss-Fox Water and Lavatory service trucks are designed to provide airlines and the airport servicing industry with a fully IATA compliant capability.

It is compatible with all present and known new generation aircraft. Improved design features simplifies aircraft servicing, provides economical operation, reduces flight delays, cuts maintenance cost and minimizes risks of environment hazard. The totally enclosed self contained module is suitable for mounting on a standard cab type chassis, it provides a compact, low profile unit for driving under both narrow and wide bodied aircraft.





**TOILET AND WATER SERVICE CART**

**DIESEL** and **ELECTRIC**

**MODEL: 250-1000lt**



The Panus Potable Water & Toilet Servicing carts are designed to provide airlines and the airport servicing industry with an all stainless steel unit for servicing aircraft potable water systems.



## CONTAINER & PALLET DOLLIES

### PALLET 10ft , 20ft and CONTAINER LD3

Dollies for unit load device (ULD) and cargo pallets are standard sized flatbed trolley or platform, with many wheels, roller bars or ball bearings protruding above the top surface for easy loading and unloading of ULD and cargo pallets respectively.

Since ULD/pallet rest on ball bearings, these dollies are equipped with hinge/locks to secure the position of the ULD/pallet on them during towing transportation.





## BAGGAGE CARTS & CARGO DOLLIES

### BCT and CDT

Baggage carts are used for the transportation of loose baggages, oversized bags, mail bags, loose cargo carton boxes, etc. between the aircraft and the terminal or sorting facility.

Our baggage carts and cargo dollies are fitted with a brake system which blocks the wheels from moving when the tow arm is not attached to a tug. Most carts are completely enclosed except for the sides which use plastic curtains to protect items from the weather.



OTHER GSE



**ELECTRIC CONVEYOR BELT LOADER**  
**DIESEL and ELECTRIC**  
**MODEL: PA-CBL**



Aircraft conveyor selfpropelled, is a specialized ground support equipment used at airports to load and unload cargo and baggage from aircraft. The Bliss-fox belt loader is available in diesel and electric version. Additionally, we have available different options like the ASD system, canopy and cabin.

OTHER GSE



**TOWABLE CONVEYOR BELT LOADER**  
**DIESEL** and **ELECTRIC**   
**MODEL: PA-CBL-TB**

Aircraft conveyor towable, is a specialized ground support equipment used at airports to load and unload cargo and baggage from aircraft. The Bliss-fox belt loader is available in diesel and electric version. Additionally, we have available different options like the ASD system, canopy and pedestrian drive.



## TOWBARS ALL TOGETHER

Aircraft towbars are essential tools used in aviation for the purpose of moving and towing aircraft on the ground, particularly when they are not powered and need to be repositioned within an airport, maintenance facility, or on the tarmac. These towbars come in various shapes and sizes to accommodate different types and sizes of aircraft. Bliss/fox is distributor of CLYDE towbars.



**AIRLINE BOARDING VEHICLE FOR THE DISABLED**  
**DIESEL** and **ELECTRIC**  
**MODEL: PA-AMBU2400-5800**



An ambulift is a specialized vehicle used at airports to facilitate the boarding and deplaning of passengers with reduced mobility, such as those who use wheelchairs or have difficulty walking. We can provide you with different truck chassis diesel or electric and different heights as per aircraft requirements.





**CATERING TRUCK**  
**DIESEL** and **ELECTRIC**  
**MODEL: PA-CT**



The Catering Truck is a specialized ground support equipment used at airports to load and unload fresh goods & drinks to aircraft. We can provide different truck chassis diesel or electric and different heights as per aircraft requirements.

OTHER GSE



**AIRCRAFT MAINTENANCE TRUCK**  
**DIESEL and ELECTRIC**  
**MODEL: MLH 10**



A maintenance truck platform for aircraft is a specialized vehicle designed to provide access and support for maintenance and servicing activities on aircraft, particularly in areas that are high or hard to reach. These platforms are used in aviation maintenance, repair, and overhaul (MRO) operations and come in various configurations to accommodate different aircraft types and maintenance requirements. We can provide you with different truck chassis diesel or electric and different heights.



**GROUND POWER UNIT**  
**DIESEL and ELECTRIC**  
**MODEL: GPU EFFETI**



The unit has been designed focusing on client real needs and manufactured following EFFETI quality standard, the GPU 400Hz EFFETI series FT99 is intended for aircraft power supply combining sturdiness, safety and reliability with a neat design that suits perfectly to all your needs. GPU FT99 strong point is the 1500 R.p.m. rating.



**AIR CONDITIONING UNIT**  
**DIESEL and ELECTRIC**  
**MODEL: ACU**



Air Conditioning Unit Effeti – the ultimate solution to keep your ground support equipment and personnel comfortable in even the most demanding conditions. Designed with precision and efficiency in mind, our AC unit is a must-have addition to any airport operation.

**OTHER GSE**



**REMOVE BEFORE FLIGHT STRIPS**



**CARGO HOOKS**



**MARSHALLER WANDS**



**BYPASS PIN**



**AIRCRAFT AND GSE CHOCKS**



**PILOT CHECK HEADSET**

## MILITARY GSE

Bliss-Fox provides GSE to the air forces of Thailand, Malaysia, New Zealand, South Africa, South Korea, Saudi Arabia and the UK as well as the army and navy of South Korea.



## USED GSE

Bliss-Fox has available a multi brand range of used equipment rental that can be available at short notice for rent or sales.

Check our website : [www.bliss-fox.com](http://www.bliss-fox.com)

## REFURBISH AND REPAIR SERVICES

Bliss-Fox can offer a full range of after sales products, services, all OEM spare parts and full refurbishment. We have over 50 years of expertise and advice to offer on all models of Bliss-Fox tractors and other GSE.





BY PANUS  
**BLISS-FOX**

Bliss fox, a division of  
PANUS ASSEMBLY CO.,LTD.  
27/1 Moo.3 Tambol Kudnong Panat Nikhom  
Chonburi 20140 Thailand

### Contact Us

-  Facebook : Bliss-Fox by Panus GSE
-  Website : [www.bliss-fox.com](http://www.bliss-fox.com)
-  Email : [info@bliss-fox.com](mailto:info@bliss-fox.com)
-  LinkedIn : Bliss-Fox by Panus GSE
-  Tel : +66 38 462100-2

