

Goldhofer



**»PHOENIX« FAMILY
YOUR TRACTORS
FOR THE FUTURE**

TOWBARLESS TRACTORS



MADE FOR YOUR MISSION

»PHOENIX« FAMILY TOWBARLESS TOW TRACTORS FOR THE FUTURE



The »PHOENIX« E turns the best-selling towbarless aircraft tractor into a future-oriented, zero-emission apron vehicle.

With it, the »PHOENIX« family now comprises a wide range of enormously powerful vehicles that can be individually configured.

Regardless of their power train, they are capable of handling all common passenger and cargo aircraft on the market, from the ERJ170 to the B777.

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MODULAR PLATFORM

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MAXIMUM PERFORMANCE

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INDIVIDUAL VALUE



MODULAR PLATFORM OVERVIEW

»PHOENIX« E and »PHOENIX« D are powerful, flexible partners on the apron that can be adapted to individual requirements:

As a battery-electric alternative, the »PHOENIX« E is zero-emission and sustainable, while still delivering the same high performance as the diesel tractor.

- + Uniform design and handling:
One vehicle, independent of the power train
- + Geared to your needs:
Whether with a diesel engine, hybrid solution, or modular battery system
- + Same performance – same aircraft range:
Long-distance towing and pushback with up to 776,000 lbs MTOW

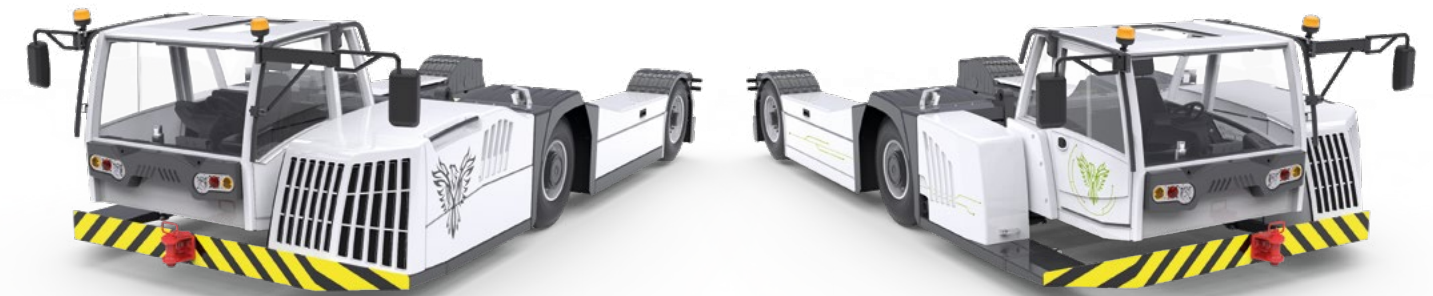


AST-2P/X DIESEL ENGINE



AST-2E E ENGINE

RETROFITTABLE GPU



✈️ 776,000 lbs	AST-2P 16mph 310hp	»PHOENIX« P/X	»PHOENIX« E	AST-2E 66kWh 20mph	776,000 lbs	✈️
✈️ 776,000 lbs	AST-2X 20mph 390hp			AST-2E 99kWh 20mph	776,000 lbs	✈️
				AST-2E 132kWh 20mph	776,000 lbs	✈️
				AST-2E 165kWh 20mph	776,000 lbs	✈️
				AST-2E with range extender 66kWh + range extender 20mph	776,000 lbs	✈️



MAXIMUM PERFORMANCE COUNT ON »PHOENIX«

ERGONOMICS

- + All »PHOENIX« models offer uniform operation
- + Extremely quiet operation
- + Spring-suspended cabin with ergonomic operation and outstanding view
- + Excellent driver's cabin air conditioning

SAFETY

- + Maximum driving stability through powered steering axle
- + Energy-saving and environmentally friendly recuperation for smooth braking which is gentle on components
- + Three-circuit service brake system:
Two circuits on the front axle and one on the rear axle, additional two-circuit parking brake for maximum safety
- + Fast, reliable single-lever emergency dumping system

RELIABILITY

- + Robust, long-lasting components made by quality manufacturers
- + Tried-and-tested, maintenance-free mounting device with no ground contact





INDIVIDUAL VALUE

»PHOENIX« AST-2P/X



DIAGNOSTICS AND MAINTENANCE

- + Information and error messages as plain text in the multifunction display
- + Minimal maintenance costs thanks to high-quality, low-maintenance components
- + Maintenance-free mounting device for nose wheels
- + Sophisticated maintenance access
- + Goldhofer »LINK« telemetry and maintenance system



CONCEPT FOR SUCCESS

- + In use on every continent and in all environmental conditions, from -22°F to +125,6°F ⁽¹⁾
- + More than 300 vehicles in use worldwide
- + High-speed maintenance towing up to 20 mph
- + Mixed operation: All conventional passenger and cargo aircraft, from the ERJ170 to the B777, whether pushback or long-distance tow



VEHICLE-SPECIFIC ADVANTAGES

- + Various engine power classes
- + Optional GPU
- + Hydrostatically driven steering axle with limited slip differential:
No shift shocks, hydrostatic deceleration



»PHOENIX« AST-2P
310 hp | 16 mph | MTOW ≤ 776,000 lbs
US TIER 3 | US TIER 4f

»PHOENIX« AST-2X
390 hp | 20 mph | MTOW ≤ 776,000 lbs
US TIER 3 | US TIER 4f



DIFFERENT
DIESEL ENGINES



AIRCRAFT RANGE
UP TO
776,000 lbs MTOW



COMMON PARTS
CATALOGUE FOR THE
»PHOENIX« FAMILY

⁽¹⁾ Standard version from -4°F to +107°F, other temperature range with Arctic- and Tropical-Kit



INDIVIDUAL VALUE

»PHOENIX« AST-2E



»IONMASTER« TECHNOLOGY

- + Active thermal management for cabins and all high-voltage components:
- + Heating and cooling for optimal temperature conditions, even during charging, for long battery life
- + Modularly expandable battery system, configurable for individual deployment requirements



VEHICLE-SPECIFIC ADVANTAGES

- + Retrofittable E-GPU
- + Almost maintenance free high-voltage components cooled by environmentally sustainable water glycol mixture: Consistent performance, even under extreme environmental conditions
- + In use on every continent and in all environmental conditions, from -22°F to +125,6°F ^[1]
- + Goldhofer »LINK« telemetry and maintenance system
- + 700V lithium-ion batteries, tried and tested from the commercial vehicle industry for certified, maximum safety, top performance and service life
- + Second-life applications for battery systems possible in future, e.g. as stationary storage systems



CHARGING AND INFRASTRUCTURE

- + All standard charging plugs available: CCS Typ 1, CCS Typ 2 and GB/T
- + Infrastructure consulting on charging points
- + Rapid DC charging and intermediate charging up to 150kW
- + Optional AC charging at up to 22 kW



»PHOENIX« AST-2E

66 kWh | 99 kWh | 132 kWh | 165 kWh
20 mph | MTOW ≤ 776,000 lbs

»PHOENIX« AST-2E WITH RANGE EXTENDER

66 kWh + range extender
20 mph | MTOW ≤ 776,000 lbs



MODULAR
EXPANDABLE
BATTERY SYSTEM



AIRCRAFT RANGE
UP TO
776,000 lbs MTOW



GOLDHOFER
»IONMASTER«
TECHNOLOGY

^[1] Standard version from -4°F to +107°F, other temperature range with Arctic- and Tropical-Kit



»PHOENIX« FAMILY GET IN TOUCH WITH US!

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TECHNICAL DATA SHEETS



»PHOENIX« AST2-P/X



»PHOENIX« AST2-E