









#### FireFly<sup>®</sup> ESV – The Amazing Power of 3



#### **BASIC SPECIFICATIONS**

- Chassis: 3-wheeled, body-on-frame design
- Speed: 50+ MPH
- Range: 100+ miles per charge
- Load Capacity: 1,100 lbs.
- Power: 100% Pure Electric<sup>™</sup>
- Motor: 47 kW (63 HP) AC induction
- **Battery Pack:** 23.6kW lithium iron phosphate
- **Transmission:** Computer-controlled Integrated Drive System<sup>™</sup> (ESC), optimizes vehicle performance for range & stability control

Suspension: Proprietary DuraSteer<sup>™</sup>,
with load distribution and anti-dive control
Charging Time: Full charge in 6 hours (L2)

# STANDARD FEATURES

- Integrated steel passenger safety cell
  - Low maintenance ABS body panels
- Ergonomic low step-in height doors
  - With smooth LinearGlyde<sup>™</sup> mechanism
  - High-visibility, impact resistant windows
- Multiple seating/driver configurations
- evTSConnect
  - Real-time vehicle communications
  - Remote diagnostics, monitoring & control
  - Vehicle and Fleet management system
- Dual Mode Display
  - Displays estimated miles remaining
  - & vehicle diagnostic information
- Electronic Parking brake
  - With "auto-park" and hill assist

#### **Proudly Made In the USA**

#### Industry leading 36 Month, 24,000 Mile Warranty Used Traction Batteries are **Re-purposed** for Grid Storage

Tel: (631)-651-5655 Email:<u>MG@AmVetWorks.com</u>









#### Purpose built for Essential Services and Urban e-Mobility

- Parking Management & Enforcement
- Refuse & Sanitation
- EMS & First Response
- Airports & Seaports
- Security & Perimeter Patrol
- Parks & Sidewalk Maintenance

- Roadside Assistance
- Property & Building Management
- Last-Mile Urban Parcel Delivery
- Hot & Cold Food Delivery
- University & Municipal Campus
- Utility Meter Reading



**SECURITY PATROL** 



**AIRPORTS AND SEAPORTS** 



PARKS & SIDEWALK MAINTENANCE



EMS AND FIRST RESPONSE



URBAN LAST MILE DELIVERY



**REFUSE AND SANITATION** 



PARKING ENFORCEMENT



**UNIVERSITIES & CORP. CAMPUSES** 



#### **PROPERTY MAINTENANCE**

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#### evTS has cultivated partnerships with multiple industry leaders





#### **Vehicle Performance**

Battery range

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- Point-to-point speeds
- Payload capacity, size & weight
- Urban agility & maneuverability tight 122" turning radius

#### Made for Urban e-Mobility and Environmental Equity

- Seamlessly transitions from on road travel to use on sidewalks and park paths
- Small Footprint takes up less room in congested neighborhoods, narrow streets and those with bike lanes
- 100% Pure Electric, produces no CO2, use has a positive impact on polluted urban air quality

#### Vehicle Management System

• Real-time performance monitoring & Remote diagnostics improves uptime & serviceability

#### Safe Lithium Iron Phosphate Battery Technology

- Among the safest EV battery chemistries, Non-combustible cell design
- All used evTS Traction Battery cells are recovered and repurposed for a 2nd life use in energy storage

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#### Rugged Construction, Heavy Duty Suspension and Accessible Drive Train



Robust body-on-frame design with commercial grade 7" steel "C-channel" frame, heavy-duty leaf springs & outside frame mounted coil-over shocks



Maintenance friendly access under-bed drivetrain with best in class 47 kW (63 HP) AC induction motor & electronic parking brake



Proprietary DuraSteer™ Front-end with massive wishbone design and near vertical steering angle, hugs the road with load distributing, anti-dive control & coil-over shocks



#### Mobility That Works<sup>™</sup>



FireFly delivers as a dependable partner for on-demand hot & cold food deliveries



The FireFly has accessory beds for many specialized use cases, like an electric dump



The FireFly is a minimal impact workhorse that is agile and maneuverable



FireFly is a versatile purpose-built vehicle with a vocation specific modular design



FireFly is the ideal solution for urban on-demand, stop-and-go deliveries



The electric FireFly ESV is an ideal first response solution for special events and stadiums – indoors or out

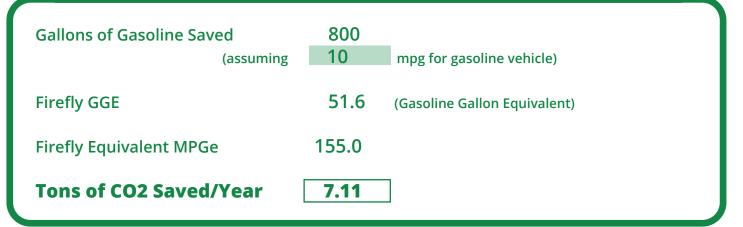
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Firefly Electricity Usage					
Number of Days Firefly Used Daily Miles Driven Daily KWH Used (assum	250 32.0 6.96 ing 4.6 mi/kWh efficiency)				
Total kWh Used/Year	1739.13				

#### **Environmental Impact**



Operating & Cost Savings						
Cost of Electricity Used Firefly Maint. Cost	\$276.52       (assuming       \$ 0.1590       /kWh)       \$ 0.03       /mi         \$143.70       (assuming       \$ 0.02       /mi, based on)       \$ 8000       mi/yr					
Cost of Gasoline Saved Gas Vehicle Maint. Costs Save	\$2,776.00       (assuming \$3.47       /Gal)         \$3,999.75       (assuming \$0.50       /mi, based on) \$8000 mi/yr					
Total Yearly Cost Savings \$6,355.53						



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#### **FireFly Vehicle Highlights**



#### **FireFly ESV**

- 100% Pure Electric<sup>™</sup>
- Ergonomic Urban e-Mobility
- Application Specific
- Body-on-Frame Design
- DuraSteer<sup>™</sup> Front Suspension
- Load Leveling Coil-Over Shocks
- Safe and Stable

- Agile & Maneuverable
- Tight Turning Radius
- Highway Speeds
- All Day Range
- Low annual O&M cost

WBENC

USE

- Real-Time Vehicle Management
- All Used Batteries Repurposed







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# IECHNICA APPENDI

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## Vehicle Specifications

MOTOR	

MOTOR	
63 HP (47kW) AC Induction	STD
BATTERY PACK	
102 V (nominal) 20.5kWh Lithium Iron Phosphate	STD
SPEED & RANGE	
Electronically Governed, capable of speeds exceeding 50 MPH	STD
100+ Miles per charge (under normal operation)	STD
TRANSMISSION	
Computer Controlled Integrated Drive System <sup>™</sup> (IDS)	STD
ELECTRICAL SYSTEM	
SAE J1772 3kW (Level 2) charger	STD
> Less than 6hr charge time under normal use	
Halogen headlights & LED stop, tail and turn lamps	STD
"Auto -Park" Parking Brake feature	STD
Automatic Hill Assist feature- minimizes rollback on steep grades	STD
Electronic Controlled Drive/Variable - rate electronic drive	STD
system optimizes speed and range	
Electronic Stability Control System (ESC) with 3-axis accelerometer	STD
and Integrated vehicle ride sensors	
> Automatically adjusts speed & ride for maximum stability	
CLIMATE CONTROL	
Heating-Electronic, 3 KW heater/defroster	STD
2.3KW diesel/biodiesel supplemental heater	OPT
4000 BTU air conditioning system	OPT

SUSPENSION & STEERING	
DuraSteer <sup>™</sup> front suspension	STD
> Proprietary load distributing front end with anti-dive control and coil-over shocks	
<ul> <li>Outside frame mounted heavy-duty rear leaf springs with coil over shocks</li> </ul>	
BRAKING	
Tuned dual-circuit master cylinder and disk brakes	STD
Electric Parking Brake (EPB)	STD
BODY/FRAME/COLORS	
Heavy Duty, body-on -frame design	STD
Welded tubular steel frame with integrated safety cell	STD
Textured white ABS outer skin (color molded in) w/UV protection	STD
SEATS	
Single Passenger Bucket seating	STD
Tandem seating available-left or right-hand drive	OPT
Seat heaters	OPT
DOORS	
LinearGlyde <sup>™</sup> door system maintains narrow vehicle profile	STD
> Self-cleaning large diameter cushioned rollers	
> Powder coated steel tubes and four-point, load-balanced,	
crosslinked mechanical design for maximum stability	
Extra-wide 28 in (71 cm) door openings	STD
Low-sill height, horizontal sliding polycarbonate windows	STD

#### TIRES

175/65-14 all-season radials *snow and ice rated where appropriate				
WEIGHT CAPACITY				
GVWR–3500 pounds Rated Capacity–1100 pounds (incl. driver)				
EXTERIOR DIMENSIONS				
Overall cab height	69 in	(175 cm)		
Overall length	152 in	(386 cm)		
Overall width	54 in	(137 cm)		
Ground clearance	6 in	(15 cm)		
Outside turning radius	22 in	(310 cm)		
Wheelbase	96 in	(244 cm)		
Track	44 in	(112 cm)		
Deluxe Cargo Bed 44 x 51 x 12 in (112 x 130 x 30 c				

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Integrated passenger safety cell	STD
Textured ABS, UV-protected body panels	STD
Extra-low step-in height of less than 10 in (25 cm)	STD
> Maximizes operator comfort and minimizes fatigue	
Tubular steel front and rear bumpers	STD
High-visibility, tinted, haze/scratch/impact-resistant	STD
polycarbonate windows	
Dual outside and inside mirrors	STD
3-Speed intermittent windshield wiper system with washer	STD
Tilt-column steering wheel with center horn button	STD
3-Point seat belt system	STD
Full-width shade band on windshield	STD
Dome light and backlit controls for nighttime use	STD
Easily removable and replaceable heavy-duty floor mat	STD
Recessed dashboard with integrated cupholders, radio	STD
openings, and pockets	
Pre-wired and integrated speaker mounts for optional	STD
AM/FM/MP3 player	
12V DC accessory port for phone, GPS, or other user	STD
accessories	
Up to four additional 12V DC accessory ports	STD
Wiring packages and factory installation of equipment such as ALPR,	STD
Light Bars, Warning Lights, etc.	
Integrated rails in bed floor to secure cargo and mount for optional	STD
accessories	
Deluxe bed with tri-fold, locking, and stowable bed cover	OPT
Dual Mode Dash Display	STD
> Gauge pod display of operational information and on-board parameters, etc.	
parameters, etc.	
> Provides estimated miles remaining, battery charge level,	
odometer, etc.	
evTSCONNECT Vehicle Management System	
> Connected real-time vehicle monitoring to track day-to-	STD
day operations of the vehicle	
<ul> <li>&gt; (eDAS) Digital Acquisition System<sup>™</sup>, performance data</li> </ul>	STD
logging, remote data access, diagnostics, and alerts	
Optional Fleet Management System	ОРТ
Optional Wi-Fi and 360-degree camera system	OPT
Optional WI-FLAID SOUCESIEE CAMELA SYSTEM	

### Excel Spreadsheet embedded

Firefly Cost Savings Estimator	Enter customer-specific information in gray cells					
Firefly Usage						
Number of Days Firefly Used	250					
Daily Miles Driven	32.0					
Daily KWH Used	6.96	(assuming 4.6	mi/KWH efficienc	-y)		
Total KWH Used/Year	1739.13					
Environmental Impact						
Gallons of Gasoline Saved	800	(assuming 10	(assuming 10 mpg for gasoline vehicle)			
Firefly GGE (Gasoline Gallon Equivalent)	51.6	(per 33.7 KWH/gallon of gasoline, http://www.afdc.energy.gov/fuels/fuel_comparison_chart.pdf)				
Firefly Equivalent MPGe	155.0	(per 33.7 KWH/gallon of	(per 33.7 KWH/gallon of gasoline, http://www.afdc.energy.gov/fuels/fuel_comparison_chart.pdf)			
Tons of CO <sub>2</sub> Saved/Year	7.11	(per EPA formula at htt	(per EPA formula at http://www.epa.gov/cleanenergy/energy-resources/calculator.html)			
Operating & Cost Savings						
Cost of Electricity Used	\$276.52	(assuming \$ 0.1590	) /KWH)	\$ 0.03 /mi	Avg. Regional cos	st of electricity (Commercial Rate) from https://www.eia.gov/electricity/monthly/update/)
Firefly Maint. Cost	\$143.70	(assuming \$ 0.02	2 /mi, based on	8,000 mi/yr	\$ 539.00	0.2666 Based on actual experience per 30K mi (.2666 utilization factor)
Cost of Gasoline Saved	\$2,776.00	(assuming \$ 3.4	/Gal)		Based on AAA reg	gional published Regular grade gas prices 12/15/21 - (https://gasprices.aaa.com/)
Gas Vehicle Maint. Costs Saved	\$3,999.75	(assuming \$ 0.50	/mi, based on	8,000 mi/yr and	\$ 7,500.00	0.5333 /yr per actual costs per 15K mi. as provided by small city parking mgmt. fleet)
Total Yearly Cost Savings	\$6,355.53					
	\$ 340.40	FireFly Yearly Ope	rating Cost	\$6,355.53 Op	perating Cost	Savings/Year <b>7.11</b> Tons of CO <sub>2</sub> Saved/Year



