



AIRPORT
PRODUCTS



Striker[®] Volterra[™] Electric ARFF:

Advanced Features Fact Sheet

Leading the electric revolution, the Oshkosh[®] Striker[®] Volterra[™] Electric ARFF redefines what's possible in aircraft rescue and firefighting. Built on the legendary Striker[®] platform, it delivers the same unmatched performance in operator efficiency, ergonomics, visibility, safety, speed and maneuverability - now powered by zero-emissions electric technology. This is bold innovation without compromise.



This fact sheet provides quick, high-level insights into the **Striker Volterra Electric ARFF's** advanced technical features and unique capabilities. Keep reading to explore how this vehicle exceeds the demands of modern airports, delivering unmatched response performance while supporting sustainability goals.



High Voltage System

- ✓ **EMIVT (Electro-Mechanical Infinitely Variable Transmission)** — Enables fully electric driving with energy recovery via regenerative braking, while automatically transitioning to emergency response mode when additional performance is needed.
- ✓ **Battery Life of Type Rating** — Provides 244 kW/h gross energy storage, enabling all-electric driving while maintaining performance. High voltage batteries are designed for longevity through careful thermal management and duty cycle optimization.
- ✓ **State of Charge (SOC) Management** — Automatically maintains the high voltage battery state of charge to ensure consistent performance, and the vehicle remains ready for operation regardless of external charging availability.

Vehicle Modes

- ✓ **EV Driving Mode** — Operates solely on electric energy for all driving processes, reducing fuel consumption and carbon footprint.
- ✓ **Emergency Response Mode** — Automatically enhances acceleration by utilizing both battery and mechanical power.
- ✓ **Standby Mode** — Operates for over six hours on battery power alone, reducing carbon footprint during idle times. All cab heating and cooling, electrical systems, air systems and hydraulics systems are fully functional with no degradation in performance.
- ✓ **Pumping Mode** — Features a 2,000 GPM (7,570 LPM) water pump which is mechanically powered the same as a conventional Striker ARFF.
- ✓ **Seamless Operational Modes** — Transitions smoothly between EV driving, emergency response and standby modes without operator intervention.

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Zero Emission Performance

- ✓ **Zero Emission Range** — Capable of driving up to 70 km (44 mi) on a single charge, supporting up to 3 days of average driving with zero emissions.
- ✓ **Zero Emission Standby** — Operates in standby mode for over six hours with all systems functional, reducing emissions and engine wear during periods.
- ✓ **Carbon Footprint Reduction** — Reduces carbon emissions by up to 75% compared to conventional ARFF vehicles, supporting airport sustainability goals.

Acceleration Performance

- ✓ **Increased Acceleration** — Accelerates from 0-80 kph (0-50 mph) in 25 seconds or less, a 28% improvement over traditional ARFF vehicles, ensuring faster response times.

High Voltage System Safety

- ✓ **Proximity of High Voltage Components** — High voltage components are consolidated and isolated to a single area for easy and safe maintenance.
- ✓ **Battery Certification to R100** — Batteries are certified to ECE Regulation No. 100 which requires rigorous testing to ensure safe operation of electric powertrains.
- ✓ **High Voltage Safety Systems** — Includes multiple safety features such as HVIL (High Voltage Interlock Loop), automatic isolation monitoring and compliant safety labels.
- ✓ **Battery Location** — Batteries are positioned above the frame rail and behind the water tank to protect against debris and collisions.

Crew Safety

- ✓ **Enter/Exit Fire Station in EV Driving Mode** — Allows for quiet, exhaust-free operation within the fire station, reducing exposure to diesel emissions.
- ✓ **Redundant Power Systems** — Power delivery is optimized between the high-voltage (HV) battery and the internal combustion engine to ensure the vehicle can operate and pump water solely on battery power.
- ✓ **Clean Cab and Carcinogen Reduction Options** — Includes Oshkosh's CARE™ (Carcinogen Awareness and Reduction to Exposure) Clean Options, offering features like an exterior wash station, SCBA storage, exhaust extraction, spray nozzles, decontamination shower heads and easy-to-clean interiors to enhance crew safety and reduce carcinogen exposure.

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Environmental Conditions

- ✓ **Withstands Harsh Environments** — Designed to operate in extreme conditions, from high humidity to corrosive salt fog, ensuring reliable performance. Equipped with a Battery Thermal Management System (BTMS) which maintains optimal battery temperature.

Charging Infrastructure

- ✓ **Flexible Charging Requirements** — Can be charged using either 220 V or 480 V AC power, minimizing infrastructure costs.
- ✓ **Auto Eject Feature** — Automatically disconnects the charging cable when the vehicle starts, improving response times.
- ✓ **No Need for DC Fast Charger** — Does not require a DC fast charger, reducing total purchase costs while ensuring readiness.

NFPA 1900 Key Requirements

- ✓ **2 Hour Pumping** — Seamlessly switches to emergency response mode for maximum water pumping, ensuring over two hours of continuous pumping at full capacity.
- ✓ **Extended Usage on One Energy Source** — The fuel (energy) tank has the capacity to support long-distance driving and extended pumping, ensuring the functionality and capabilities of conventional ARFF vehicles are not compromised.
- ✓ **Gradeability** — Can ascend a 50% grade, ensuring mobility across various airport terrains.
- ✓ **Tilt Table Test** — Passes the 30-degree tilt table test, ensuring vehicle stability in challenging conditions.

Single Source Design

- ✓ **Integrated Manufacturing** — Chassis, powertrain and firefighting systems are designed and built by a single manufacturer, ensuring seamless operation and long-term reliability.
- ✓ **Familiar Operating Mechanics** — Design and operating mechanics are identical to the conventional Striker, allowing for easy vehicle transition and cab navigation.

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Service & Support

- ✓ **Comprehensive Maintenance Training Programs** — We offer essential training on electric ARFF vehicle operation and safety. Training courses include electric ARFF vehicle familiarization training, high voltage safety orientation and high voltage systems training.

For more detailed information, visit the [Striker Volterra Electric ARFF product page.](#)

