



## CFX75 in Electric Vehicle Charging Station Cooling

### Industry Background

The electric vehicle (EV) market is growing rapidly, creating a demand for fast and safe charging solutions. Portable EV charging stations are essential for flexibility, but they require advanced cooling systems to prevent overheating during high-speed charging. Inadequate cooling can lead to component failure, reduced battery life, and safety risks.

### Challenge

A start-up developing mobile EV charging stations faced several challenges: limited space for components, a need for 12V DC power compatibility, stable flow and pressure with low energy consumption, and resistance to coolant fluids in mobile environments.

### Solution

MP Pumps recommended the CFX75 centrifugal pump, constructed from 316 stainless steel for durability and corrosion resistance. Key specifications include: up to 28 GPM (106 L/min) flow, 32 ft (9.8 m) head, carbon/ceramic/Viton bellows seals rated to 150 PSI (10 bar), and a compact design with a housing that rotates every 90° for flexible installation. The pump operates on 12V DC, making it ideal for mobile EV applications.

### Implementation

The CFX75 was integrated into the cooling loop of the charging station. Installation steps included calibrating flow and pressure for optimal heat dissipation, leveraging the pump's compact footprint for tight spaces, and conducting real-world tests to confirm performance and energy efficiency. MP Pumps provided technical support throughout the process.

### Results

After implementation, the start-up achieved stable temperature control during charging, eliminating overheating issues. Reliability improved significantly, reducing downtime and maintenance costs. The pump's energy efficiency lowered operational expenses, and its corrosion-resistant design ensured long-term durability.

### Conclusion

The CFX75 proved to be the ideal solution for mobile EV charging stations, combining compact design, corrosion resistance, and DC power compatibility. This case demonstrates how selecting the right pump technology can enhance safety, performance, and product longevity in demanding applications.



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