



**CAN Control Pumps
Manifolds and Valve Control
Sensor Input Capable
Closed Loop Subsystems**

**Cloud Data Cooling Control
DC Fast Charge Cooling
HD Durability Controllers
Optimized Flow and Efficiency**

Electric Vehicle OEMs Have Fluid Challenges:

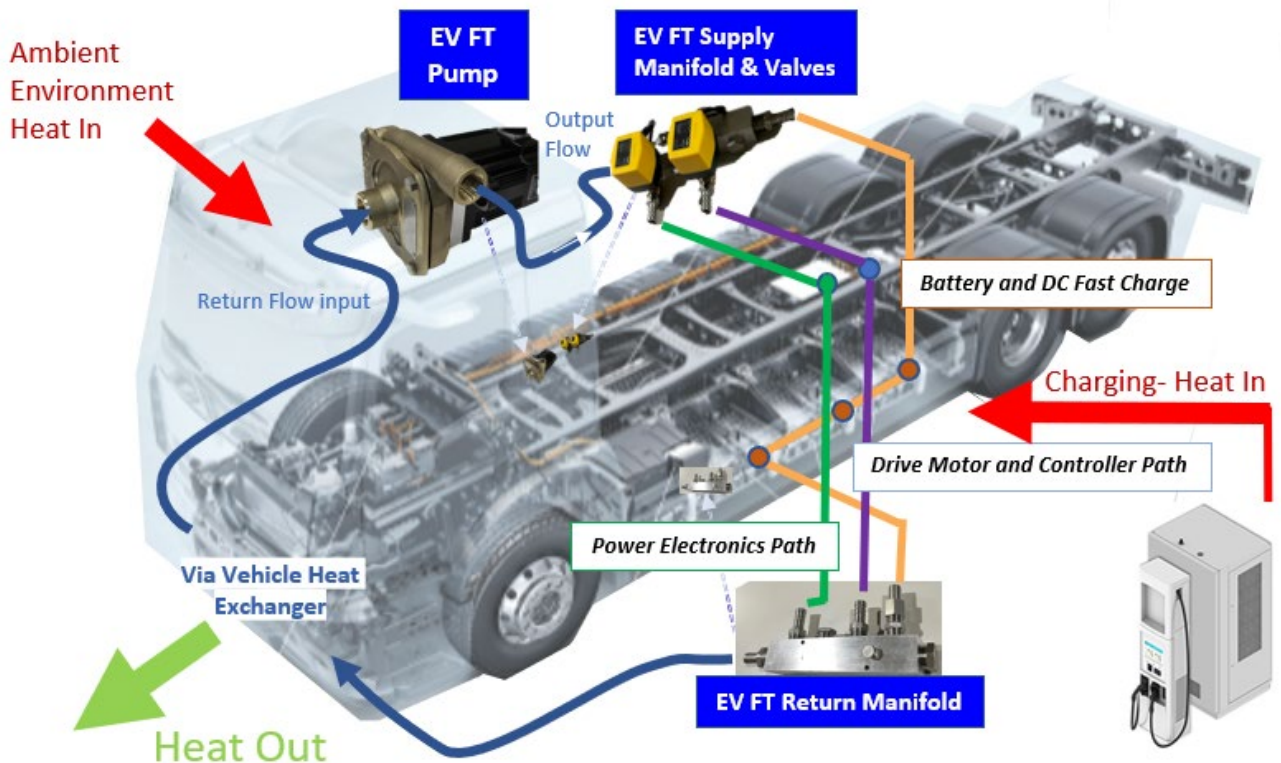
Flow of fluid and control of where the fluid goes are functions Original Equipment Manufacturers (OEMs) must solve, as well as longer EV driving distance and enabling rapid charging

EV Flow Tech Provides Solutions:

EV Flow Tech provides solutions for variable pump speed combined with valve control using CAN inputs and sensors from the OEM vehicle systems

Waterproof-	IP67 and IP69, externally mountable in the elements	Controller-	Highest efficiency design and optimized thermal transfer
Volt and Watt range-	200 to 600 watt versions for 12 to 48 volt system	CAN-	Highest level SAE J1939 interface
High Performance-	Low rpm, small dimensions package space, high output 1Nm @2100rpm. 50 lpm, 200 lpm	Life-	15000 hours HD class applications, self-diagnostics
Closed Loop control-	Valve control, pump speed, and loops open / closed based on temp sensors	Cloud-	Cloud data monitoring
		Estimating-	Model estimates for required lpm flow rates under various conditions

System of Pump, Sensors, Manifolds, Valves, CAN Interface



E-CAN6900 Benefits

Drive Farther



Use up to 40% less energy in the cooling system

Infinitely adjustable speed per system demand. Perfect matching of motor torque to required pump flow.

High efficiency driver design is optimized for thermal transfer to integrated passive case heatsink; the most efficient and reliable pumping solution when coupled with the Intelligence in control and diagnostics.

Prevent Field Down Time



Long life mechanical design

Diagnostic feedback before a failure can occur

12000 to 15000 hours target

Extended Factory characterization across all temperature and load conditions (a patent Pending Proprietary technology).

Detect changes in the operation of the pumping system, and address issues in real time or report possible failure modes, such as dynamic seal and bearing early failure modes

Charge Faster- Rapid Charging Support



High flow output capability and controlled flow ramp-up

Ability to “boost up” cooling for fast charging events, controlled by CAN and intelligent control of fluid flow.

Cloud Monitoring



Intelligent drive system enables Cloud and wireless monitoring

Profiling tools and expertise will be provided by EV Flow Tech Engineers, allowing the installation and monitoring of the pumps via Wireless means and accessible in the Cloud. Builds a histogram of current operation in the installation and reports “Out of Normal Use” issues. Detect real time running parameters, predict remaining life or time to PM over the CAN bus

E-CAN6900 Motor, Controller, and Pump Options

Start with Motor and Controller

Highest efficiency setup to interface with your system



Add Pump

Glycol and NanoFluids- High flow output and controlled flow ramp-up. Gerotor option for highly viscous fluids, cold start operation



CAN Interface Option

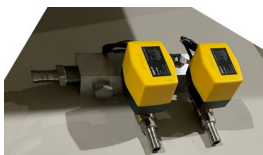
Enable Intelligent drive system, Rapid charging, Cloud interface, valve control, and wider systems on SAE J1939 CAN protocol



LIN Interface Option

Programmable functionality and interface for wide compatibility

E-CAN6900 System Interface Options



Add Valve Control

Engineering support and supplier development for controlling flow to multiple vehicle systems; traction motors, batteries, inverters, HVAC, controllers



Add Battery Cooling

Engineering support and supplier development for battery cooling plates and EV systems

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