

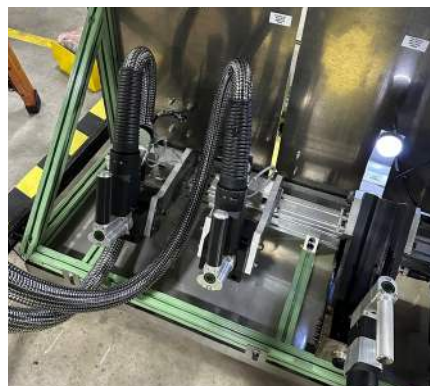


APPLICATION SPOTLIGHT

OEM Semi-Truck – End of Line Filling Station



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APPLICATION:

Before every semi-truck hits the road, all critical fluid systems must be properly filled to ensure safety, performance, and compliance with transportation regulations. Diesel fuel, DEF, engine oil, coolant, wiper fluid, power steering fluid, and brake fluid are all dispensed to precise levels that vary by model. This “end-of-line” fill process is a crucial step in readying each truck for long-haul duty across the U.S. highway system, where safety and uptime are paramount.

PRODUCT SUPPLIED:

- AW-Lake JVA-12BBT Gear Meters for lubricating fluids (Brake, Power Steering)
- AW-Lake JVA-30BBT Gear Meters for lubricating fluids (Antifreeze and Wiper Fluid)
- AW-Lake JVA-60BBT Gear Meters for lubricating fluids (Diesel, DEF, Engine Oil)
- AW-Lake EDGE Sensors

CHALLENGE:

The OEM integrator responsible for building the filling station faced several key challenges:

- Minimizing human intervention to reduce under- or over-filling errors
- Synchronizing the filling process with moving trucks on the production line

- Ensuring repeatable accuracy across a variety of vehicle models and fluid types
- Capturing complete data for quality assurance and warranty traceability

Each dispense point had to work in harmony with the truck’s movement—initiating only once the fluid line was connected, precisely stopping once the correct fill amount was reached, and immediately logging the data by VIN for traceability. Any deviation from the expected fill needed to trigger an alarm for inspection.





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SOLUTION:

AW-Lake collaborated with the OEM integrator to provide a tailored flow monitoring solution for each fluid type. Positive displacement (PD) gear meters were selected for their reliability, fast response time, and ability to measure a wide range of viscosities with exceptional accuracy.

- **AW-Lake EDGE Sensors**
- **High Accuracy & Repeatability:** Each PD meter outputs a fixed number of pulses per gallon, giving PLCs a precise signal to accurately control dispense volumes.
- **Streamlined Operations:** With minimal human oversight, operators simply connect the fill lines—automation takes care of the rest.
- **Quality Assurance:** All fluid dispense volumes are logged and tied to each truck's VIN, providing a robust record for compliance and warranty support.
- **Production Efficiency:** The filling system moves with the truck along the assembly line, then automatically resets to the starting position, supporting a seamless and continuous build process.

By integrating AW-Lake's meters and sensors, the OEM created a reliable and data-driven filling station that ensures each truck leaves the factory safely filled, road-ready, and backed by a detailed quality audit trail.

