

- FIGURE : Sensor-Integrated Skid Modules for Inline Detection**
A schematic layout showing programmable controllers linked to plasma feed and collection tanks, with embedded inline sensors for ethanol, buffer, UV280, turbidity, pH, and conductivity readings.
- FIGURE : Batch Execution and Sensor Feedback Flowchart**
A process diagram detailing sensor feedback loops controlling buffer and ethanol pumps across the fractionation column, including programmable logic controller feedback from both fractionation and buffer pathways.
- FIGURE : Modular Ethanol and Buffer Dosing Pumps System**
A control schematic showing multiple buffer sources (e.g., ethanol, NaCl, Buffer A, Buffer B) routed via real-time controlled dosing pumps into the fractionation skid, with inline solvent sensing and safety interlocks.
- FIGURE : OEM Integration Architecture for Plasma Fractionation**
A digital schematic showing the modular integration between programmable logic controllers, inline ethanol/pH sensors, RFID cartridge validation hardware, and OEM skid firmware connections.
- FIGURE : Cartridge Metadata Flow Diagram**
A flowchart detailing the lifecycle of RFID-enabled GMP buffer or ethanol cartridges, including input validation, lockout logic, metadata logging, and cloud synchronization.
- FIGURE 6: Cloud Logic Tree for Protocol Management**
A hierarchical logic diagram representing the execution of deviation alerts, protocol deployment, and compliance recordkeeping across both the immune and plasma systems.