GENERAL

The GenEvo fuel system is a comprehensive fuel manager for reliable generator fuel supply. The Franklin Fuelling EVO 550 is the Intelligent center of the system, integrating a full set of fuel supply functional elements. These elements include bulk storage tanks, tank fill stations, day tanks, duplex pump sets, filter polishers and DEF.

WHY GENEVO?

Generator fuel systems are configured in a wide variety of systems to suit safety, compliance, and operational requirements in and around buildings. Most often they are designed and built, or cobbled together, using independent fuel gauges, pumps, day tanks, and other components that are difficult to commission and operate as an integrated system. The Franklin Evo has a heritage of integrating fuel tank level gauging, leak detection, and pump control—and an unmatched global network of certified technicians.

UTILIZE STANDARD PETRO EQUIPMENT TO MAXIMUM EXTENT

The design intent is to utilize standard petroleum equipment to the maximum extent possible. There are several benefits to this approach.

- Reduced Cost to Buy and Install
- Local Stock Equipment in Most Markets
- Global Standards and Availability for Your Work Around the World
- Trained Technicians Available Locally to Startup and Test
- Long-Term Customer Support with Local Parts Stock and Ready Service Techs
Here is a summary of the Evo Franklin equipment commonly used

GenEvo Controller
The GenEvo controller is a Franklin Evo 550 controller with specialized input – output modules and advanced programming features for controlling generator fuel systems.

Evo Level Probes
Standard Franklin Evo tank probes are used for bulk storage tank monitoring, whether underground or aboveground. Special probes for generator sub-base tanks and day tanks include 2 IN (50) diameter floats and short lengths for smaller and shallow tank monitoring.

Evo Leak Sensors
Standard Franklin Evo leak detection probes, either discriminatory or not, integrate into the controller. Sensors are continually monitored for functionality and provide compliance for applicable regulations. Individual sensors may be programmed for fuel transfer shut-down as needed.

Evo Line Leak Detection and Vacuum Sensors
Pressurized line leak detection sensors and software can be added to the system where required for local code compliance. Vacuum leak detection for underground tanks, sumps, and piping are also available.

FE Petro Submersible Pumps
The leading global brand of submersible pumps integrates to the evo controller for on-off control and performance monitoring. Both fixed and variable speed pump systems are available to adapt to design requirements.

FE Petro Pump Controllers
Pump controller are specifically designed for integration into the evo controller. This includes a data network of all operating characteristics for advanced diagnostics and predictive maintenance.

The GenEvo Controller is modified with hardware modules and Software to adapt to the requirements of generator fuel systems. These modifications include:
• Additional Input and Outputs for Pump and Valve Control
• Analog Output Signals for Remote % Full Display at Fill Stations
• Day Tank Level Control Software using Evo Probes for Level Sensing
• Filter – Polisher Scheduling and Monitoring Software
• Modbus Connectivity for BMS Integration
Use the Intelligence in the Gen Eco Controller but Add Special Interfaces

Generator Fuel Systems will require some simple additional interface devices from the standard Evo equipment. These small panels are simple low-cost devices that add detail to the control system.

**GenEvo C12 Pump Control Hat for Filter Polishers or Supply / Return Transfers**

The C12 is a Hat for the standard FE Petro STP-SC1 Pump Controller. The C12 adds to the controller capabilities with (a) safety disconnect switch, (b) selector switch and relay logic for manual mode operation independent of control power.

**GenEvo C14 Tank Fill Control and High Alarm**

The C14 is a simple interface for tank fuel filling. The green light indicates normal level and flashes when the fill valve is open. The red light flashes on alarm with a flash-pace to indicate 85-90-95% tank fill levels. The pushbutton momentary action tests the horn and light in normal mode or silences the horn in alarm mode. The pushbutton held for 5 seconds commands the fill valve to change state, open or close. A tank % Full display is available as an option.

**GenEvo C15 Generator Sub-Base or Day Tank Local**

The C15 Panel has integrates the solenoid valve inlet pipe control with the Critical High Level Sensor to disable the valve on a critical high condition, independent of the GenEvo tank level transmitter. The panel also has a selector switch for manual mode opening on the inlet solenoid valve. This allows tank top off and refill test functions.

**GenEvo C16 Emergency Stop Push Button and Monitor**

The C16 Panel is an emergency stop push – button station. When activated the unit flashes a red alarm light, provides an input to the Gen Evo Controller, and disables local pumps and valves.

**GenEvo C17 Dual Power Source with Auto-Switch**

The C17 Panel accepts 2 power inputs, monitors power status, and auto-switches to alternate source in a power failure condition.

**GenEvo C18 Monitored Auxiliary Power Circuits**

The C18 Panel provides auxiliary power circuits for valves, pumps, local controllers and other devices requiring isolation and circuit protection independent of the Gen Evo controller.
Add Specialized Fuel Modules to Complete the System

All modules are designed with minimum local control, and integrate directly to the Gen Evo Controller.

**GenEvo M20 Duplex Fuel Transfer Pump**

The M20 is a duplex pump assembly designed to transfer fuel from a remote fuel storage tank to refill a generator sub-base tank or day tank. Use it where submersibles are not practical, or to meet any design specification.

**GenEvo M30 Automated Fuel Tank Filtration / Polishing**

The M30 makes fuel polishing easy and inexpensive for generator fuel tanks. The assembly has a continuous duty Pump with dirt and water removal elements rated to 1 micron.

**GenEvo M40 Direct Fuel Tank Fill System**

The M40 is a direct fuel tank fill connection with an actuated ball valve for high level shutoff and overfill prevention. The assembly includes the C14 Tank Fill Control and Alarm Panel where safe filling systems are required by user standards or regulations.

**GenEvo M50 Cubic Steel Tanks (UL142)**

Cubic steel tanks, double wall, UL 142 Listed are designed to accept evo level probes, leak sensors, and accessories. Beat the high cost of legacy day tank products.

**GenEvo M55 Solenoid Fill and Return Flow Pump**

The M50 is a sub-base or day tank refill systems where transfers pumps are mounted remotely. When fuel re-fill is required the system open the inlet solenoid (optional actuated) valve and sends a signal to the remote pump system. The Return Flow pump operates on a high level condition to return fuel to the bulk storage tanks, or it may be operated in the manual mode for testing.
Now Let’s Put the Components Together to Solve the Most Common Applications:

1. Monitor and Remote Fill a Generator Sub-Base or Day Tank
2. Remote Fill of Bulk Tank and Control Re-Fill of Sub-Base or Day Tank
3. Remote Fill of Bulk Tank and Transfer to Sub-Base or Day Tank with Return Flow
4. Remote Fill of Bulk Tank and Transfer to Sub-Base or Day Tank with Return Flow and Add Fuel Polisher.
5. Remote Fill of Bulk Tank and Transfer to Dual Sub-Base or Day Tank with Return Flow and Add Fuel Polisher.
6. Remote Fill of Bulk Tank and Transfer to Dual Sub-Base or Day Tank with Return Flow and Add Fuel Polisher, and Add DEF Day Tank and Remote Fill

Here is the Legend for the Following Schematic Diagrams

- AV ACTUATED VALVE
- O-I OPERATOR INTERFACE
- HL HIGH STOP SENSOR
- LD EVO LEAK SENSOR
- LT EVO LEVEL PROBE
- PC EVO PUMP CONTROLLER
- SV SOLENOID VALVE
- EVO SUBMERSIBLE OR VIKING PUMP
Schematic 1: Monitor and Remote Fill a Generator Sub-Base or Day Tank

Schematic 2: Remote Fill of Bulk Tank and Control Re-Fill of Sub-Base or Day Tank
**Schematic 3:** Remote Fill of Bulk Tank and Transfer to Sub-Base or Day Tank with Return Flow

**Schematic 4:** Remote Fill of Bulk Tank and Transfer to Sub-Base or Day Tank with Return Flow and Add Fuel Polisher.
**Schematic 5:** Remote Fill of Bulk Tank and Transfer to Dual Sub-Base or Day Tank with Return Flow and Add Fuel Polisher
Schematic 6: Remote Fill of Bulk Tank and Transfer to Dual Sub-Base or Day Tank with Return Flow and Add Fuel Polisher, and Add DEF Day Tank and Remote Fill