

## ***Automatic Batch Wastewater Treatment System***

***PLC Control automates  
the following functions***

- ***Reagent Dosing***
- ***Oxidation of Cyanide***
- ***Reduction of Chromium***
- ***Precipitation of Metals***
- ***Immobilization of Chelates***
- ***Removal of Grease and Oil***
- ***Solids Separation***
- ***Sludge Dewatering***



### **Complete System**

The **Aqualogic™ Automatic Batch Treatment System** is a compact, automatic treatment system designed to batch treat 500-2000 gallons of industrial wastewater. Depending upon the reagent chemistry added and instrumentation provided, the equipment will treat mixed rinsewaters and process dumps for cyanide oxidation, chrome reduction, precipitation of heavy metals, solid dewatering, and removal of oils and greases, producing an effluent suitable for discharge to local sewers, according to permit regulations. The control panel houses an imbedded PLC programmed to sequence all process steps. A 5.7" touchscreen is mounted on the door for process inputs and process monitoring.



### **Central Control Module**

## **Modular Construction**

The System is constructed of three modules to allow versatility in function and to provide flexibility in locating the system. The central control module, the filtration module, and the reaction module are connected only with PVC pipe allowing maximum use of available space. Components need not be located next to each other for proper functioning.

### **Central Control Module**

The PLC control panel, metering pumps, batch mixing & transfer pump, injection ports, transfer piping, and automatic valves are mounted on a steel, epoxy painted base to form a compact integrated module requiring minimal installation effort. Probes for pH and/or ORP are mounted in line to keep the sensing elements wet during idle periods and allow processing of partial batches. The batch treatment process is initiated by activating the start button on the panel.

### **Reaction Vessel**

The reaction vessel is a cone bottomed closed head polyethylene tank on an epoxy coated steel frame. Effluent is pumped from the cone bottom to the control module for chemical additions and monitoring. Eductors on the return line in the tank wall accomplish the mixing of the effluent.

### **Filter Press**

Upon completion of the treatment cycle the pump will deactivate for the programmed settling time to allow the precipitated solids to settle. Upon completion of settling, the air actuated valves will automatically divert the settled solids to the filter press for dewatering. The treated effluent will be discharged to the sewer.

## **Base System**

The base system comes complete with:

- 1. 500 gallon reaction vessel**
- 2. Transfer/Mixing Pump, a 1" polypropylene air diaphragm pump**
- 3. Reagent feed pumps: Four (4) air-operated, metering pumps**
- 4. Reagent prep Station with mixer**
- 5. Great Lakes pH Analyzer and probe**
- 6. Microprocessor based control system**
- 7. Touch-Pad Operator Interface**
- 8. Air actuated transfer valves**
- 9. Filter Press, 1 ft<sup>3</sup>**
- 10. Programming to Clients' Cycle**

### **Optional Equipment**

- 1. Larger Reaction Vessel; 1000, 1500, or 2000 gallons.**
- 2. Great Lakes ORP Analyzer and probe**
- 3. Additional reagent feed pumps.** (determined by treatment procedure)
- 4. Larger Filter Press; 2, 3, 4, or 5 ft<sup>3</sup>**
- 5. Second Reaction Vessel** (allows collection of effluent while batch is treated)
- 6. Additional Reagent Prep Stations**