



PAN AMERICA  
ENVIRONMENTAL, INC.

**The BTS, semi-automatic, Batch Treatment Systems provide a variety of flexible chemical treatment scenarios where fixed wastestream volumes are generated.**

The BTS Series **Batch Treatment Systems** are designed to implement a wide variety of flexible chemical treatment scenarios by batch treating a fixed water volume.

Chemistry is dependent on the wastewater makeup and requires jar testing to verify proper chemical recipe(s)

The BTS systems can also be provided as a manually operated system where volumes are slow to accumulate or project capital cost reduction is important.

The system design provides a small footprint, low energy consumption, simple operation, adjustment and maintenance.

Customization, modifications & options are available to tailor the system to your project.

### **Features Included:**

- ◆ Reaction volumes 100 - 1000 gal.
- ◆ Chemical metering pumps
- ◆ pH control.
- ◆ Variable speed mixer.
- ◆ De-watering filter.
- ◆ Nema 4, semi-automatic controls.
- ◆ Space saving, compact footprint.
- ◆ Low capital cost.
- ◆ Simple pushbutton operation.
- ◆ Adjustable chemical metering & reaction timing.
- ◆ Sequential reaction operations
- ◆ Sludge is de-watered at the end of the treatment cycle.

### **Typical applications:**

- ◆ Metals precipitation/flocculation
- ◆ Solids coagulation/flocculation
- ◆ Emulsion breaking
- ◆ pH neutralization/solids removal

**Model  
BTS**

# **Batch Treatment Systems**



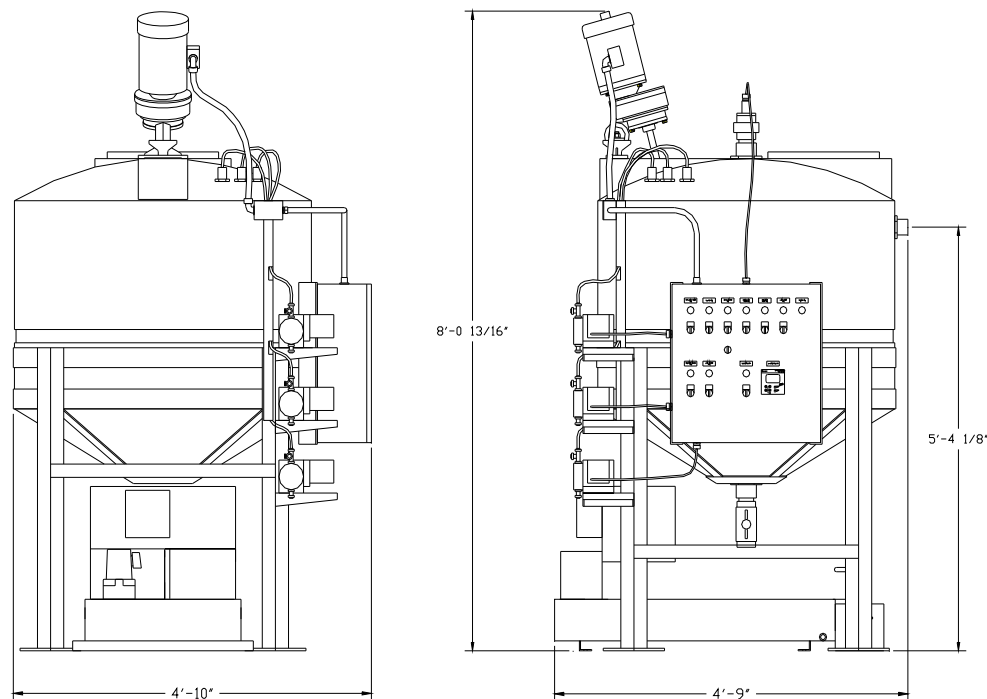
**Model  
BTS**

# Batch Treatment Systems

## Sequential Operation

The semi-automatic BTS system design sequential operation proceeds in a step by step manner:

1. Operator fills tank
2. All controls are set to automatic
3. Mixer is started
4. Operator pushes GO button, system starts.
5. System runs through coagulation/pH adjustment & flocculation operations automatically, concludes and triggers a cycle complete light on door (an audible buzzer is offered).
6. Mixer is turned off
7. Operator opens discharge valve, reacted volume drains through self-indexing de-watering filter. Filter fabric with de-watered sludge is deposited in a filter media bin as the flow is de-watered. The de-watering filter contains a pumpout pump that discharges filtered water to your desired point of discharge.
8. Operator pushes reset button, fills tank and starts next cycle.



Models	Volume (GAL.)	Dimensions			Pumps	Weight (Lbs.)	
		L	W	H		Empty	Operating
BTS-100	100	4'	3.5'	6.5'	3	760	1595
BTS-300	300	4'-9"	4'-10"	8'	3	880	3382
BTS-500	500	5'-10"	5'-6"	8'	3	975	5150

Not for Construction      Dimensions & System Designs Subject to Change.

## Controls

The Nema 4 controls provide:

- pH controller
- Adjustable coagulation timer
- Adjustable flocculation timer
- HOA switches for manual & automatic control.

# Batch Treatment Systems

The BTS systems are highly customizable, which allows for a wide variety of chemical processes and electrical control schemes with manual, semi-automatic and automatic process steps. External electrical tie-ins such as a tank fill system with system start can be used to start the entire process. If desired fully manual systems can be provided.

The system design is based on a series of reaction steps placed one after the other in sequential order to complete an automated process ending with a process end alarm horn to alert the operator to the process complete condition.

Standard electrical design consists of relay logic. When the processes get complex a micro PLC is generally recommended and quoted.



Solids flocculation/settling



Zinc precipitation, solids flocculation & settling, pH neutralization. PLC driven



Chromium reduction/precipitation/settling