

## **- Sigma™ -**

### **Model VDT Vacuum Distillation System for waste reduction**



#### **Applications**

- Eliminate waste hauling of contaminated water
- Reduce waste water volume
- Produce distilled water for recycling
- Eliminate combustion byproducts
- Recover metals and other insoluble solids
- Recover of materials sensitive to heat
- Closed loop solution for water - reuse systems
- Zero Discharge opportunity when waste is recycled

### **Complete Waste Reduction**

#### **Process Highlights**

- Standard models for 300 to 2000 gallons per day waste systems
- Low temperature distillation eliminates permitting problems

- Operates at all outside temperatures
- Atmospherically sealed so there is no opportunity for an accidental discharge
- May be located inside with remote heat ejector option.
- Fast startup for on demand treatment
- Heat pump design makes most efficient use of energy
- Robust process deals with large range of contaminants

#### **Standard Features**

- Automated system
- Allen Bradley PLC and HMI
- Completely self-contained heat and cooling
- Electrically powered, no other utilities required
- Continuous process cycle with various output volumes
- Programmable concentration level
- Complete NEMA 4X control panel
  - PLC control
  - Automatic chemical dispensing
  - Manual pump controls
  - Operational alarms

#### **Options**

- Stainless Steel sanitary "Tri-Clover" connections
- Fully networkable Allen Bradley PLC
- Secondary containment for the entire skid
- Vacuum chamber illumination
- Filtration options for the incoming waste
- Automatic antifoam
- Various communication options for remote monitoring
- Remote mounted control panel also available
- Transfer pump stations where needed
- Storage and holding tanks
- Remote tank level sensors for auto control.

#### **Operational Guidelines**

- Fully automatic operation
- Requires less than two hours per week of maintenance
- Can handle influent quality changes
- Will recover 92-97% distillate
- Produces solid waste at approx 20% concentration
- Operational temperature is approximately 100°F
- Can be operated by non-technical staff

#### **Materials of Construction**

- Tanks are Stainless Steel
- Wetted piping is copper, PVC and CPVC
- Skids are powder coated steel
- Std control panel powder coated steel
- Pumps are Stainless Steel

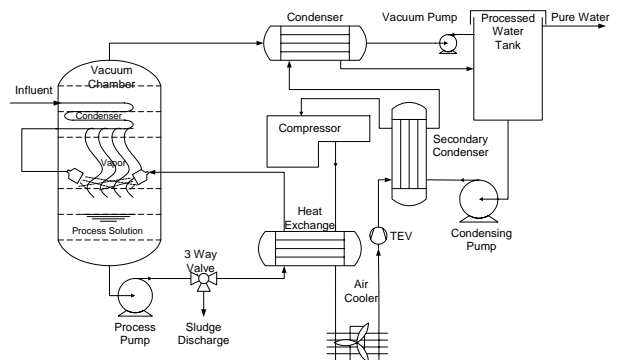
#### **Utility**

- 480VAC, 3-Phase, 60HZ

Detail	Specification	Description
Water Inlet Connection	0.5"	Threaded or flanged
Effluent Outlet Connection	0.5"	Threaded or flanged
Drain Connection	0.5"	Threaded
Temperature Control	± 2°F	From Setpoint
System Size	54" * 32" * 75"	
Current Draw	35amps	VDT 100
Current Draw	65amps	VDT 1000
Process Pump	50gpm	Stainless
Vacuum Pump	3.2gph	
Flow Control	Rotometer/Manual Valve	PVC
Pre Heat	Yes	Electric immersion coils
Alarms	Yes	Flow, Pressures, Temps
PLC Control Panel	Automated Start	NEMA 4 (painted)



SIGMA VDT-500



Process Diagram

Control Panel with AB Touch screen HMI



Model	Power	Size	Weight
Sigma VDT 300	460VAC 35A	L54 W54 H68	Approx 900 lbs
Sigma VDT 700	460VAC 46A	L90" W54" H72"	Approx 1400 lbs
Sigma VDT 1000	460VAC 80 A	L90" W54" H84"	Approx 3000 lbs
Sigma VDT 2000	460VAC 80 A	L120" W54" H84"	Approx 4000 lbs

Models Available