



"The Leader In Geotextile Sludge Dewatering Systems"

# BRT 500 Dry Polymer Make-Down System

## TECHNICAL INFORMATION

- The Blue River Technologies 500 Dry Polymer System is designed to make down up to 10 lbs. per hour of cationic or anionic dry polymer at a concentration of 0.3% (0.003). This system will operate in either manual or fully automatic mode. *(At a 0.5% concentration the system will make down 17 lbs. per hour. Rates are based on a 450-gallon batch size and a 45-min agitation cycle.)*
  - The mix tank is a 500-gal round tank with removable lid. This tank is mounted on a steel skid with a bridge style agitator frame provided over the tank.
  - The tank will mix up to 450 gallons of solution per batch. The tank includes a float system. An independent float style switch is installed at the top of the tank to shut down the system in the event of an overflow condition.
  - The BRT 500 mix system is a batch process system. The mix tank is filled with water and polymer is added in the proper amount during the fill cycle to produce the desired solution concentration. After the fill cycle, the water shuts off and tank agitation begins and continues for a set amount of time. After the agitation period expires, the system goes into a "Standby" mode until the storage tank is at a sufficient level to accept the batch.
- batch. At this point, the control will initiate the transfer cycle actuating a pump and transferring the batch to a storage or process tank. *(The transfer pump is not included with the basic system but can either be provided by the customer or quoted and supplied by Blue River Technologies. We recommend either a progressive cavity or positive displacement internal gear pump for the transfer pump.)*
- The control system is a PLC-based system. The control interface allows the operator to quickly change the feeder run time to increase or decrease the solution concentration percentage



5 HP Water Booster Pump

- The interface is also used to set agitation time to reduce product shearing. The interface will also provide the operator with alarm or fault condition information. Standard alarms or fault conditions are: “Low water pressure”, “Hopper Low on Polymer”, “Mix Tank High Level”, “Storage Tank High Level”, “Clogged Polymer Feed Line”. (See *control/interface drawing*)
- The system includes a 1/2 hp agitator with a gear reducer drive running at 350 rpm. The agitator can be set up with dual props.
- The BRT 500 comes standard with the 3.0 cubic foot Hopper/Feeder Assembly. An optional 6.0 cu foot hopper is available. (See *Product Technical sheet for feeder specs*)
- Polymer is initially hydrated and dispersed into the mix tank with the Blue River Technologies 50 GPM Eductor Dispenser. (See *Product Technical sheet*)  
This stainless-steel eductor/dispenser uses high energy water pressure to provide faster hydration and uniform wetting of the polymer particles. This helps to prevent fisheyes and agglomerations from forming in the mix tank. A Teflon nozzle provides a non-stick surface for trouble free operation. A sanitary-type clamp connects the powder hose to the dispenser for quick inspection and cleaning operations. An optional ultrasonic flow detector is available that will put the system into an alarm condition in the event of no polymer flow thru the hose.
- The 5 HP water booster pump and water tree assembly ensures that a uniform 50 GPM water fill rate is maintained. A low water pressure switch located in the water tree will shut down the system and activate an alarm relay, in the event water pressure falls below the minimum required for proper operation of the eductor/dispenser.
- The water tree includes a full port, pneumatic operated ball valve. This valve includes SS trim and Teflon seats. The actuator is a spring return to close valve, shutting off water flow in the event of a power failure or loss of air supply. (Air filter/Regulator is supplied as standard equipment)

\*\*\* The End \*\*\*

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