

Leach-Rite™ - A Complete Recirculating Pressure Dispersal System Saves Landfills Money

Benefits

- Acceleration of landfill bio-reaction and stabilization
- Reduces organic content of leachate
- Reduces leachate treatment costs
- Shortens landfill post-closure maintenance time

Leach-Rite is a complete recirculating pressure dispersal system for the even and controlled sub-surface application of leachate. This engineered system employs UL698A controllers, industrial grade pumps, lines and components to provide optimum results and ease-of- operation. Leach-Rite is a single source solution from Leachator Pumping Systems, Inc., a leader in the field of leachate management systems.

- Eliminates trucking of leachate for treatment and repetitious re- pumping of old leachate
- Eliminates wastewater treatment of leachate
- Enhances bio-reaction of the landfill cell mass
- Increases landfill gas production

Leach-Rite recirculates the leachate to a wide area in the upper portion of the landfill. This avoids the costly breakdowns and hotspot dangers of injection wells, trenches or surface discharges.

Leach-Rite extracts the collected leachate from the sideslope riser, pond, lagoon, tank or wetwell and distributes it below the surface of the landfill through a zoned system of buried emitter tubing. The system's patented electro-hydraulic unit controls the rate of flow based on the leachate available. It selects and alternates the zones of leachate dispersal to achieve maximum recirculation without over-wetting the

landfill cell mass. The amount of leachate that must be recirculated and its rate of accumulation determines the area and number of required zones of emitter piping required.

For the Engineer

Leach-Rite Systems are available for a wide range of applications. Our team will work with you to determine the specifications and will provide a comprehensive solution.

For the Landfill Operator

Leach-Rite offers ease of operation. The system will perform its tasks automatically or can be manually overridden. Sensing and monitoring functions protect the environment and the Leach-Rite pumps and equipment. Automatic flushing of the system dramatically reduces maintenance.

The benefits of recirculating leachate

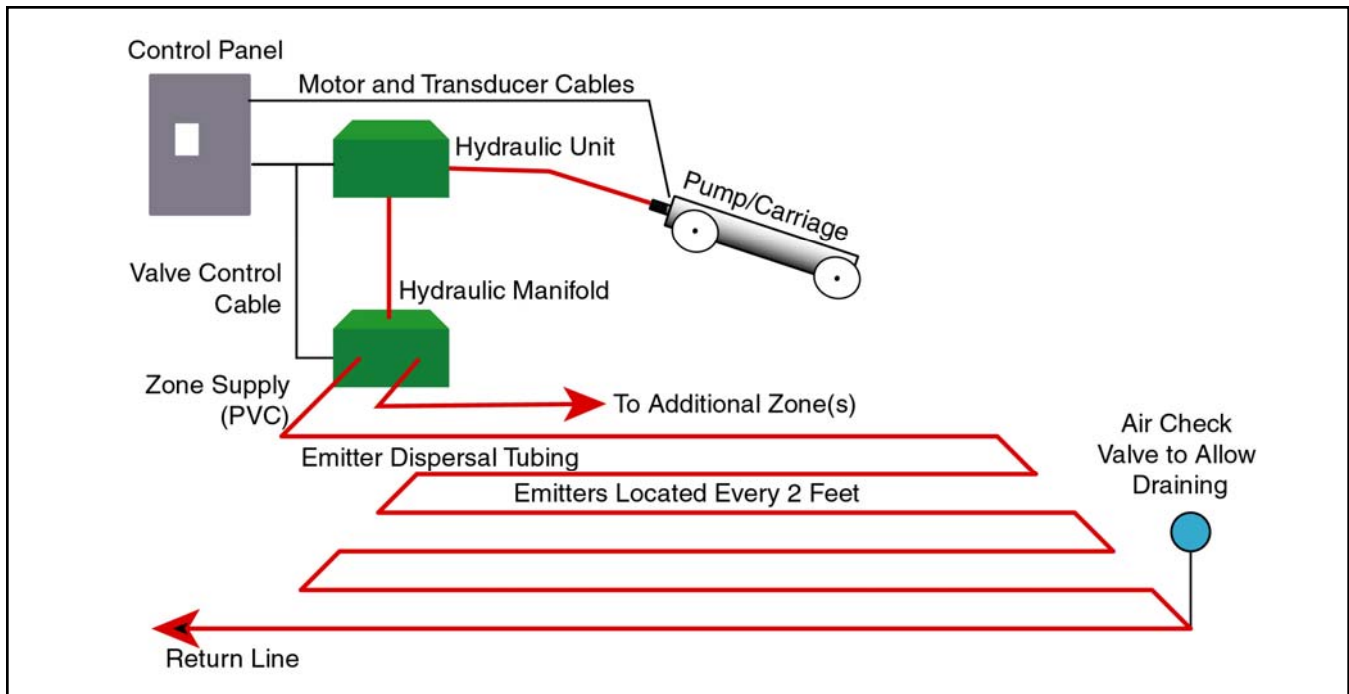
The reintroduction of moisture to the landfill cell mass dramatically speeds up decomposition of organic material and breaks down the leachate. Instead of preserving the organic solid waste in a traditional "dry tomb" landfill, the moisture addition facilitates a bio- reaction that reduces the volume of organic material. The recirculation of leachate significantly enhances the bio-reactive processes by prolonging the trickle down time and maximizing the even distribution of moisture to the cell mass.

This recirculation process also improves the leachate quality. Instead of transporting leachate to a treatment facility or storing it in a holding area, the leachate is simply reintroduced to the landfill under controlled conditions. Leachate recirculation saves both the transport and treatment costs. Another benefit of recirculating leachate is increased land fill gas (LFG) production due to the accelerated decomposition of materials. In many cases this gas can be captured and used for power applications.

Leach-Rite Integrated Solution

Leach-Rite accomplishes this leachate recirculation with a system of pumps, controls and hydraulic piping systems to provide optimum

LEACHATOR



results, minimal maintenance and ease of operation.

Leachate is pumped from the land fill sump or holding pond to the remote zone manifold hydraulic unit. The hydraulic unit, an assembly of specialized valves and filters distributes the leachate to four fields based on parameters set in the control panel. Operation can be automatic and can be over-riden at any time.

HYDRAULIC UNIT — The pump delivers leachate to each filter in the hydraulic unit. To prevent solids from blocking the filters and lines, the filter backflushing schedule is triggered at the beginning of each dose cycle. One filter valve closes, blocking flow of the leachate to that filter.

The accumulated impurities discharge back into the landfill. The closing and opening procedure of the filter and the back flush valves cause a change of flow within the unit to provide filtered leachate from one filter to back flush the other filter. The backflush procedure lasts approximately fifteen seconds then the back flushing valve closes. Leachate will be pumped through clean disc filters, then through the flow

meter and finally through the outlet manifold to the dispersal field supply line. During extended dose times the disc filters are re-backwashed to assure optimum operation.

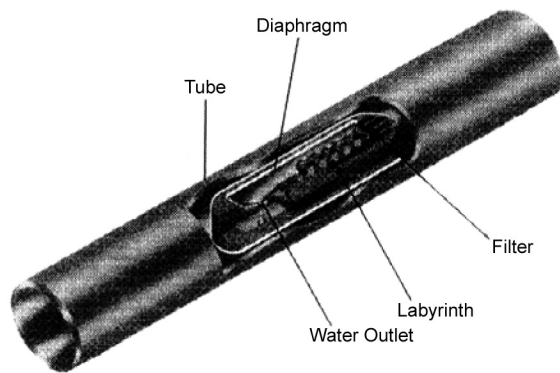
CONTROL PANEL — The “state of the art” control panel is UL Listed 698A and is housed in outdoor, corrosion-resistant enclosure connected to the hydraulic unit and the remote zone solenoid manifold. . The control panel uses 230 volt power and the microprocessor has 120V and 24V AC inputs and relay outputs for automatic operation of the remote zone solenoid valves. Zone valves can be controlled up to 7000 feet from the main panel with 24 gauge twisted pair cable. **PUMP** - The pump used is a submersible-type, all stainless steel construction, teflon upgraded multi-stage turbine type pump designed to pump leachate.

The pump is sized to provide a calculated dose rate for each system. It is protected by an electronic overload relay located in the Transfer Pump Control Panel, providing under- and over-current as well as loss-of-phase protection.

DISPERSAL TUBING — The dispersal field supply line conveys the leachate to the absorption zone in the landfill that is being dosed,. It is discharged

LEACHATOR

below the surface through a patented chemical-resisting, pressure compensating, self-cleaning "dispersal" poly-tubing emitter. The emitters are located every two feet in the tubing and allow 0.65 gallons per hour per emitter output. Each emitter maintains a constant flow over pressure range of 7 up to 70 psi. Because the leachate is distributed at an ultra low rate, large quantities of leachate may be economically distributed over a large area during controlled periods of time without saturating the landfill.



The leachate typically will contain solids that can clog the emitters and prevent the leachate from being output to the landfill. To eliminate this problem, the dispersal lines are automatically scoured (forward flushed) every 25 dosing cycles. This function is activated by the controller, which opens a field flush valve, allowing the flushed leachate to be returned to the landfill. The flushing cycle produces a high velocity cleansing/scouring action by the leachate along the inside walls of the emitter tubing, PVC manifolds and emitters.

The construction of the dispersal tubing is unique in that the internal diaphragm and labyrinth provide for an exact amount of leachate to be discharged from each of its emitters.

AIR RELEASE VALVES — The dispersal field return line conveys the leachate from the dispersal absorption zone (used to "flush" or clean the tubing) back to the landfill. Each zone has an air release valve housed in a small valve box at the highest point of the return manifold pipe in

each zone. The valve closes when the leachate pressure arrives at the valve during each dose. The air release valve allows air to reenter the tubing after each dose, permitting the tubing to drain. This also prevents the uphill tubing from draining leachate into the downhill tubing and overloading downhill tubing. Air release valves should not be covered with soil or other material and should always be accessible.

Leachator Pumping Systems, Inc.

Leachator Pumping Systems, Inc., has been designing and installing industrial quality leachate management systems since 1989. With hundreds of systems in operation across the U.S., we have the range of experience and demonstrated track record to assist you by proposing and providing the best available equipment and services.

One Source, A Complete Solution

- Electric and Pneumatic Submersible Pumps Designed for leachate
- UL 508A/698A System Controllers
- Piping, Fittings, Cable
- Extraction and Condensate Collection
- Stormwater Collection and Transfer
- Aeration/Agitation
- Groundwater Sampling and Purging
- On-site Operator Training
- Troubleshooting, Service and Warranty
- Replacements, Spares