

Typical Lime Dosing System

A bag of powdered lime is placed on the open door of the bag loader and secured in place by the retaining spear. The bottom of the bag is then opened with a hand held knife and the door closed securely. This then allows the lime to fall into the storage hopper. Heating pads are fitted to two sides of the hopper to prevent moisture in the hopper causing clumping of the powder.

A low-level sensor provides a signal of when the level of powder inside the hopper approaches empty.

Two air diffusers are fitted inside the hopper to prevent bridging of the powder within the hopper. They are connected to a single solenoid valve mounted on the skid. The valve opens for a short period of 1 to 2 seconds every minute to allow air to circulate gently.

This gentle stirring of the powder prevents bridging from forming without fluidising the powder.



Lime from the storage hopper is metered into the solution tank by the dry chemical feeder. The feeder can be isolated from the storage hopper via a slide gate, allowing the feeder to be serviced without emptying the hopper.

The feed rate can be adjusted by varying the rotation rate of the feeder screw via a mechanical variator, AC frequency controller or pulse duration controller or a combination of both when both solution strength and flow pacing is required.

The powder is metered into the top of the solution tank where it is mixed with the make up water. The shroud around the feeder spout prevents any powder dust from escaping and also prevents splash back into the feeder. A stirrer either tank or pedestal mounted, ensures that the solution is thoroughly mixed before being pumped away by the solution transfer pump. A float valve within the solution tank maintains a constant level of the water in the tank. A level switch inside the tank prevents dry running of the pump.

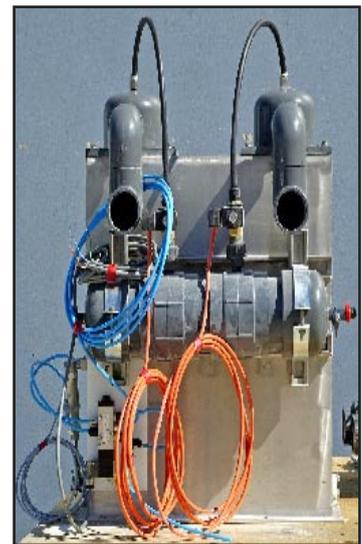
The solution is drawn from the tank side outlet, some distance from the bottom and transferred to the injection point by either a diaphragm type metering pump, or a spectra progressive cavity pump.

A drain at the bottom of the tank allows the tank to be drained fully for maintenance. The tank overflow pipe is also connected to this drainpipe, by-passing the drain valve.



A typical lime package could consist of the following items:

- Dry Chemical Feeder.
- 1000mm Bag Loader.
- Stainless Steel Hopper with low level sensor, heaters and pneumatic diffuser pads.
- Stainless Steel Feeder with Spout heater and mechanical variator.
- Slide Gate Assembly.
- PVC Pipe work.
- Solution Transfer Pump all mounted on a hot dipped galvanised skid.



Vacuum Transfer System

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