



CASE STUDY

SWC/Adaptek partnership

Adaptek DISCPAC™ Pump Lime Slurry Applications



Limestone slurry is a versatile and inexpensive product for industrial applications including waste water treatment and power generation emission controls. Chemically, limestone is primarily calcium carbonate (CaCO_3), which, in its granular form is soluble in water forming a very abrasive, caustic pH (a weak acid) slurry.

As limestone stays only slightly soluble in water, the slurry needs near constant agitation to avoid suspended particles settle out and forming solids. As typical limestone slurries are < 20 % solids, in slurry form, transport costs are prohibitive, so quicklime and dry hydrated lime is most often processed in situ.

The Adaptek DISCPAC™ pump is ideal for pumping lime slurry for power generation wet limestone scrubbing and other critical density/viscosity applications as the open architecture of its boundary viscous drag operating principle avoids the increased chain reaction frictional wear of circulating particles thus inhibiting the breakage of the intermolecular bonds that would degrade limestone target slurry viscosities.

As the Adaptek disc pump does not suffer catastrophic failure associated with cavitation or aeration that rapidly destroys other pumps and is not dependent on relief valves that are troublesome and can become unreliable when positive displacement (PD) pumps are applied in and even aggravate variable slurry situations.

Normal maintenance parts of the Adaptek pump are typically limited to seal and bearings which often can be further optimized with enhanced seal plan design and selection. Little



or no maintenance and long life of the Adaptek disc pump is in stark contrast to PD pumps such as progressive cavity pumps and their rotor/elastomeric stator design that needs frequent monitoring for clearance wear leading to regular major repairs which require a very cost significant on-hand inventory of major overhaul rotor/stator components, bearings and seals.

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About the SWC/Adaptek partnership

Southwestern Control's partnership with Adaptek goes back many years. Combining our 50+ years of engineering experience with the reliability and industry-best longevity of Adaptek's slurry pumps allows us to provide you with customized solutions to difficult problems and challenges based on your specific requirements. Contact our team about your objectives, and let's get started on your project today.

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Benefits Summary for Adaptek DISCPAC™ pump in Lime Slurry Applications:

- Pulsation-Free Smooth Laminar Flow
- No Relief Valve Flow Variation/Complication
- No Tight Internal Tolerances
- Low NPSH Requirement
- Dry-Run Capability
- Dead-Heading Discharge/Starving Suction Capable
- Long Life Pump Components
- Low Maintenance/Spare Parts Requirements
- Will pass large solids, rocks & tramp solids without damage.

For more information, comments or inquiries, please contact:

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STLE Certified OMA I, CLS, IADC, & Produced Water Society Member

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