



Jindex Products - Jindex Lime Dosing Valve

Milk of lime is a common slurry used in many industries to raise pH. It has many and varied applications that include:

- **Mineral Processing**—pH control for gold leaching, flotation enhancement, precipitation.
- **Desalination Plants**— Final pH modification.
- **Coal Power Stations**—Flue Gas Desulphurisation.
- **Waste Water Treatment** —Heavy metal precipitation, coagulation/settling aid
- **Drinking Water Treatment**—Water colour control, pH modification, Coagulation/settling aid



The Issues:

Milk of Lime is a difficult slurry to handle for any equipment and it is likely to cause two problems which create maintenance headaches for operations:

1. **Scale Formation**— Due to low vapour pressure around valve internals and flow discontinuities. Most valves suffer from seizing and/or seat leakage as a result.
2. **High Wear Rates**—As the CaCO_3 does not dissolve well in water, the undissolved particles must be kept in suspension by high pipe velocities. This combined with the sharp angular shape of the particles create the perfect conditions for high wear rates in both isolation and control valves.

Process Need:

In order to optimise operations the plant needs a valve that will achieve the following three goals:

- An efficient internal shape that minimises wear within the valve.
- Minimise downtime when maintenance is eventually required;
- An economic design as most “milk of lime” lines are 80NB and under.

Solution:

The Jindex Lime Valve

Design features and benefits:

- Smooth Full port Valve—**Minimizes Wear and scale formation**
- Will seal shut even with solids on the seat — **Safer**
- Double pinch closure - **Minimizes sleeve stretch as wear two sides**
- Patented “Fast Sleeve Change” system - **Minimum maintenance time**
- Flexible Sleeve cracks off scale — **Self Cleaning, consistent control , no chance for valve seizure**
- High Speed actuator - **Minimizes time at 5% open (highest wear)**
- Sleeve material Type “LM” - Limatec Rubber Blend - **Optimised on site trials to give longest life**





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Control Method:

Ideally, for the “Milk of Lime” (Lechada De Cal) duty an on/off rather than a modulating mode is preferred. The on/ off mode gives the longest sleeve life as the sleeve will be in either the open or closed position the abrasive fluid will not be wearing a half open valve at the control point.

When controlling non-abrasive fluids the valve is sized so that it is controlling in the middle of the linear range (approx. 40-50% open). However if this method is used for abrasive fluids the internal valve surfaces will experience extreme wear.

If for some reason an on/off mode is not feasible and modulating control is the only option, the key to minimising sleeve wear is to have the valve in the most open position possible. The optimum controlling position is around 60% open, this will provide an ideal compromise.

Connections:

- Flange preferred. DIN, SABS, ANSI, BS, Table D,E
- Utilising one size up from pipeline

Materials of Construction:

- Carbon Steel and Ductile iron— As Lime is passivating

Ranges:

- 25mm (1”) - 500mm (20”)
- Up to 40 bar

Operators:

- Double acting pneumatic actuators
- Spring to open/close pneumatic actuators
- Manual hand wheel
- Electric
- Hydraulic
- Electro/hydraulic

Positioners and Control Protocol:

- Jindex Brand
- All international brands are also supported
- All standard Protocols Available—Profibus, Modbus etc.

