



## Orege SLG™ sludge pre-treatment system

Supercharge your belt filter press dewatering

Many wastewater plants are searching for strategies to combat increasing hauling and disposal costs, rising polymer costs, and tightening regulations. Alfa Laval and Orege deliver innovative, effective, and reliable treatment and dewatering technologies to overcome these challenges. The patented, proprietary SLG solution provides a simple, consistent, and highly effective pre-treatment enhancement to sludge dewatering operations. The SLG is proven with global installations and backed with a performance guarantee. Alfa Laval and Orege have a global partnership in greenfield and brownfield wastewater applications where Alfa Laval is the exclusive OEM for belt press products available with the SLG solution.

### Application

SLG enhances the dewatering performance of your Alfa Laval belt filter presses by changing the rheology of the sludge, causing it to float. Additionally, it has a small approximately 3' x 5' footprint so will utilize minimal floor space.

### Benefits

- Increases cake dryness, decreases polymer consumption, and can increase hydraulic throughput
- Strips H<sub>2</sub>S and other harmful gases to reduce odor and plant corrosion and then directs it to further treatment
- Higher dewatering capture rates—producing a cleaner filtrate return with increased ORP (Oxidation Reduction Potential)
- Reduce capital spending—SLG can potentially eliminate substantial plant upgrades

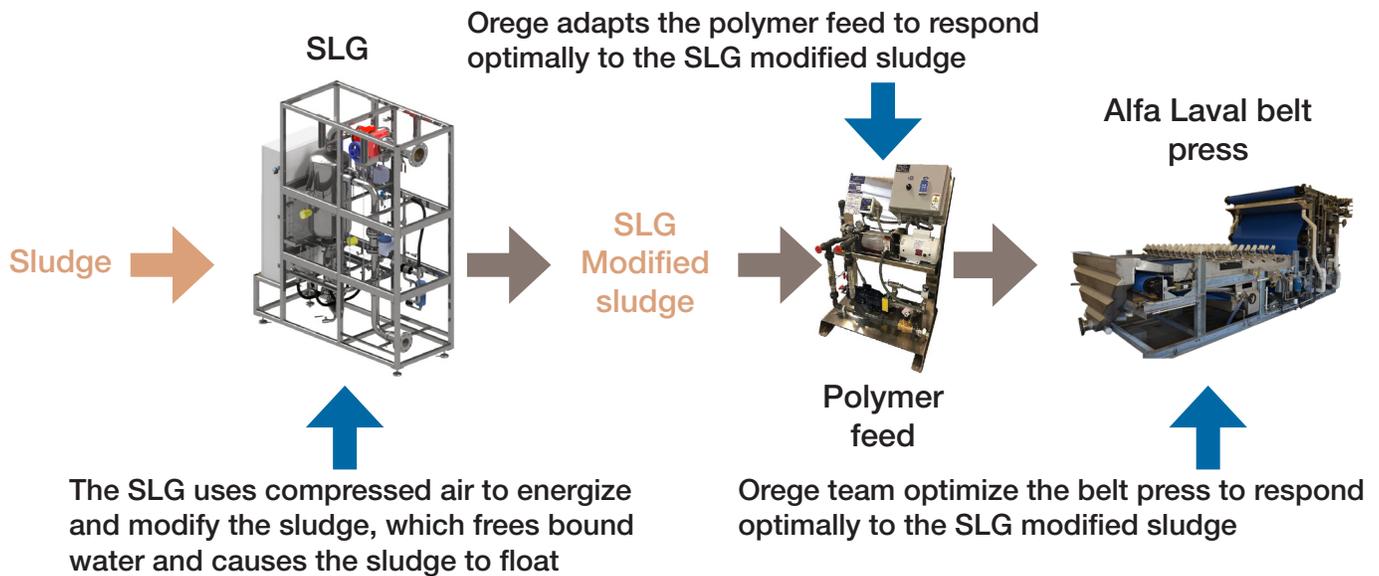
### Working principle

By working ahead of your dewatering equipment, the Orege SLG uses proprietary equipment and methods to alter the properties of your sludge with a primary impact of allowing it to shed water more easily, leading to increased dryness or the ability to increase throughput on the equipment. Orege SLG uses compressed air and proprietary technology to change the actual rheology of your wastewater sludge, breaking down aggregate colonies in the sludge and releasing bound water. The reaction process infuses air into the sludge and facilitates rapid and effective separation prior to dewatering.

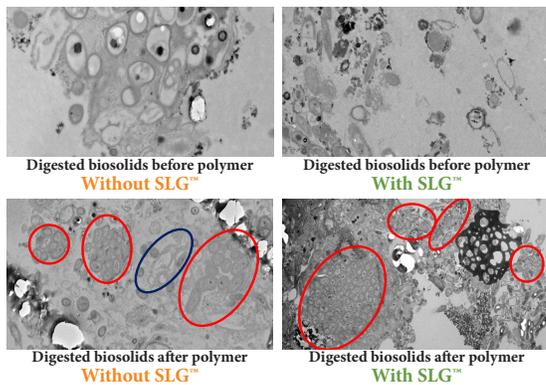


SLG skid

# The SLG (solid/liquid/gas) solution



## Micro effect, macro effect



### Micro effect:

- Compressed air forcibly impacts sludge in a mixing environment
- Smallest bubbles penetrate sludge cell colony's extracellular polymeric substance (EPS)
- Through pressurization and depressurization, small bubbles disrupt EPS and colonies
- Separated colonies free trapped water



### Macro effect:

- Polymer is optimized with uniform distribution
- Air is trapped within newly energized SLG Floc
- SLG Floc is less dense and rises
- Water drains through channels created by trapped air bubbles
- Large bubbles carry H<sub>2</sub>S and other harmful gases to deaerator

## Performance guarantee

SLG projects are process guaranteed and will meet specified performance criteria before final acceptance. All SLG projects also include the Orège Optimization Service for the first year at no additional cost. This service includes periodic visits from an Orège technician during the first year of operation to further ensure successful operations.

Alfa Laval

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