SLG®+BFP Mobile Sludge

Sludge dewatering machine

Introduction

The SLG® + BFP Mobile Sludge Dewatering System is a high-performance sludge dewatering solution engineered and exclusively provided by Orege North America. The system integrates Orege's patented SLG® (Solid–Liquid–Gas) sludge conditioning technology with a Alfa Laval AS-H, G3 high-solids, extended-deck, 8-roller belt filter press to deliver superior dewatering performance with low polymer consumption and high operational reliability.

Designed as a complete, skid-mounted system, the SLG® + BFP combines advanced sludge conditioning, gravity drainage, and pressure filtration within a single mechanical framework. By conditioning the sludge upstream of polymer addition, the SLG® improves floc structure and enhances the efficiency of the belt press dewatering process. The system is suitable for rental-based deployments where consistent performance, rapid installation, and minimal customer involvement are required.

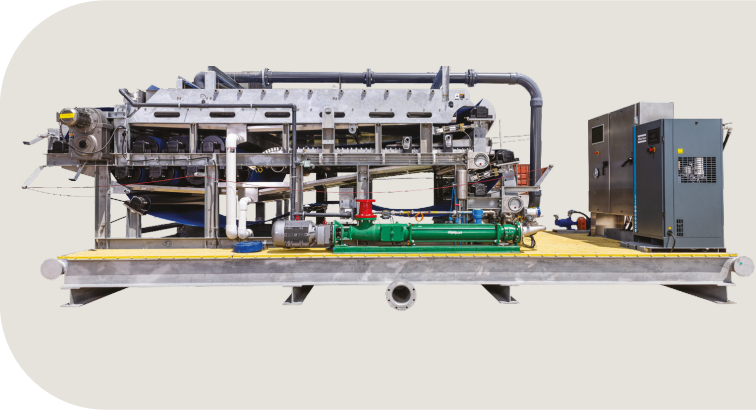
Application

The SLG® + BFP Mobile Sludge Dewatering System is suitable for municipal wastewater sludges including waste activated sludge, primary sludge, and blended sludges. The system is also applicable to a wide range of industrial solid–liquid separation processes such as food and beverage, pulp and paper, chemical, pharmaceutical, and energy-related applications.

The mobile, skid-mounted design allows the system to be deployed for temporary, supplemental, or long-term dewatering applications with minimal site preparation.

Benefits

- Improved cake dry solids through advanced SLG® conditioning
- Reduced polymer consumption
- Higher throughput and solids loading
- Improved solids capture and filtrate quality
- Stable operation across varying sludge conditions
- Low maintenance requirements
- Fully integrated, turnkey rental solution
- No customer capital investment or spare parts responsibility



Features

- Patented SLG® sludge conditioning technologyHigh-solids, extended-deck, 8-roller belt filter press
- Direct-injection polymer preparation and dosing system
- Integrated compressed air system and deaeration stage
- Adjustable gravity and pressure dewatering zones
- VFD-controlled feed and auxiliary equipment
- Integrated control panel
- Fully skid-mounted, mobile design

Features description

SLG® sludge conditioning system

- Patented, in-line conditioning technology utilizing pressure, air, and velocity changes
- Restructures the sludge matrix upstream of polymer addition
- Improves polymer effectiveness and reduces overall polymer consumption

Polymer injection and flocculation

- Direct-injection emulsion polymer preparation and dosing system
- Rapid, controlled flocculation following SLG® conditioning
- Optimized floc structure for enhanced gravity drainage and pressure dewatering

Deaeration stage

- Downstream deaeration to release excess air and entrained gases
- Stabilizes sludge prior to belt press entry
- Improves drainage efficiency and operating consistency

Features description

Gravity drainage zone

- Extended gravity deck for rapid free-water removal
- Uniform sludge distribution across the belt width
- Optimizes filtrate separation prior to pressure application

Pressure dewatering zone

- Multi-roller, high-solids pressure zone configuration
- Progressive pressure application to protect floc structure
- Maximizes cake dry solids and solids capture

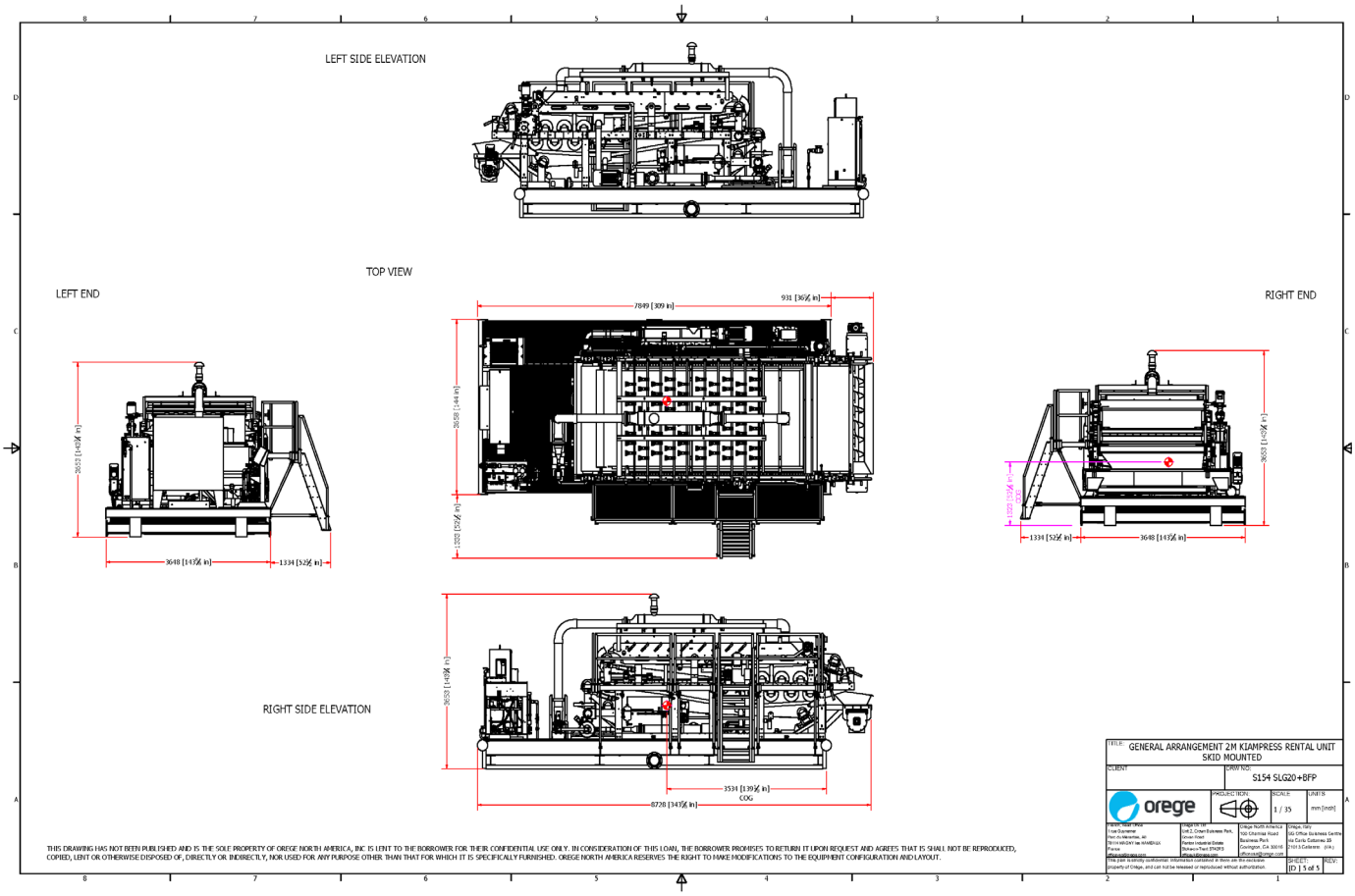
Integrated controls and utilities

- Centralized control panel for SLG®, ancillary equipment, and belt press operation
- VFD-controlled feed pumping and auxiliary systems
- Fully skid-mounted design for rapid installation and

Working principle

The SLG® + BFP Mobile Sludge Dewatering System operates by conditioning the feed sludge using Orege's patented SLG® (Solid–Liquid–Gas) technology prior to polymer addition. The SLG® applies controlled pressure, air, and velocity changes to restructure the sludge matrix, increasing available surface area and improving polymer reaction efficiency. Following SLG® conditioning, polymer is injected to promote rapid and uniform flocculation. The conditioned sludge then passes through a de-aeration stage to release excess air and entrained gases before

Dimensions



Dewatering performance, including cake dry solids, throughput, and polymer consumption, is influenced by sludge characteristics and site-specific operating conditions; Orege works collaboratively with each client to optimize system performance throughout the rental period.