Making Dewatering a Piece of Cake

Webinar
June 18, 2019

TRANSFORMING WATER. ENRICHING LIFE.

How to Participate Today

- Audio Modes
  - Listen using Mic & Speakers
  - Or, select “Use Telephone” and dial the conference (please remember long distance phone charges apply).

Submit your questions using the Questions pane.

- A recording will be available for replay shortly after this webcast.
Webinar Overview

- Dewatering Overview
- Technology Overview
- Rotary Press Breakdown
- Applications
- Specifications
- Evoqua Quality Assurance
- Questions

Dewatering Overview

1. Sludge
2. Dewatering Unit
   - Various alternatives and technologies used for different sludge types.
3. Separated Cake and Liquid
   - Dry cake is formed after water is removed.
4. Outlet

Mike Jager
Product Manager

Carrie Gabrielse
Laboratory Manager
Technology Overview

- Belt Press
- Centrifuge
- Filter Press
- Screw Press
- Rotary Press

Rotary Press Overview

1. SLUDGE IN
2. POLYMER
3. FILTRATE OUT
4. CONDITIONED SLUDGE IN
5. CAKE OUT
Rotary Press Breakdown

Value Proposition - Footprint

Size Compared to Other Technologies
Value Proposition – Operation & Maintenance Labor

**Automation**
- Automated start up
- Automated shutdown
- Ability to detect faults and relay to mobile device
- Ability to program
- Programmable CIP System

**Digital Water Management:**
- 24/7/365 remote monitoring with system alerts
- Rapid response from local service team
- Proactive management of water system operations and maintenance
- Real-time data analytics of water quality, water use, system status, and predictive maintenance.

Value Proposition – Maintenance Cost & Part Replacement

- Minimal parts
- Low rotational speed
- Reduced wear and tear on parts
- No internal bearings
- No need for complete machine rebuilds
- Internal housing is easily accessible by side door
### Value Proposition – Approximate Operational Cost

<table>
<thead>
<tr>
<th>Cost of Operation</th>
<th>Rotary Press</th>
<th>Belt Press</th>
<th>Centrifuge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Consumption</td>
<td>0.75 – 13 hp</td>
<td>15 hp</td>
<td>75 – 130 hp</td>
</tr>
<tr>
<td>Water Consumption</td>
<td>6 – 8 gpm</td>
<td>50 gpm</td>
<td>15 gpm</td>
</tr>
<tr>
<td>Polymer Consumption</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

### Applications

**Key Applications Within Largest Markets:**

- Biosolids Dewatering
- DAF Sludge Dewatering
- Animal Waste Dewatering
- Primary Waste
- Waste Activated Sludge
- Municipal Water & Wastewater Treatment
- Industrial Wastewater Treatment
- Food & Meat Processing
- Fruit & Vegetable Juices
- Potato Products & Starch Recovery
### Performance

<table>
<thead>
<tr>
<th>Typical Application</th>
<th>Average Feed (%TS)</th>
<th>Average Polymer (lb./ton D.S)</th>
<th>Average Capture (%TSS)</th>
<th>Average Cake (%TS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary 100%</td>
<td>2 – 6</td>
<td>4 - 8</td>
<td>95 - 98</td>
<td>28 - 38</td>
</tr>
<tr>
<td>Anaerobic Digested</td>
<td>1 – 4</td>
<td>8.8 – 15.4</td>
<td>95 - 98</td>
<td>18 - 26</td>
</tr>
<tr>
<td>Aerobic Digested</td>
<td>1 – 3</td>
<td>8.8 -13.2</td>
<td>95 - 98</td>
<td>15 - 22</td>
</tr>
<tr>
<td>Primary/Secondary Mix</td>
<td>1 – 4</td>
<td>6.6-11</td>
<td>95 - 98</td>
<td>20 - 32</td>
</tr>
<tr>
<td>Waste Activated Sludge</td>
<td>1 - 3</td>
<td>11 – 17.6</td>
<td>95 - 98</td>
<td>15 - 22</td>
</tr>
<tr>
<td>Septage</td>
<td>3 - 7</td>
<td>6.6 – 15.4</td>
<td>95 - 98</td>
<td>28 - 38</td>
</tr>
<tr>
<td>Alum Treated WAS Sludge</td>
<td>1 - 3</td>
<td>13 - 22</td>
<td>95 - 96</td>
<td>12 - 16</td>
</tr>
<tr>
<td>Brewery</td>
<td>1 - 3</td>
<td>5 – 15</td>
<td>95</td>
<td>13 - 17</td>
</tr>
<tr>
<td>Pulp and Paper</td>
<td>3 - 5</td>
<td>1 - 8</td>
<td>95</td>
<td>31 - 50</td>
</tr>
<tr>
<td>Swine</td>
<td>1 - 4</td>
<td>6.6 – 8.8</td>
<td>95 - 97</td>
<td>18 - 24</td>
</tr>
</tbody>
</table>

The listed results are sludge/process/chemistry dependent and typical of applications tested and results may vary from what is listed.

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### Skid Mounted Polymer System Feed Pump, Static Mixer, and Press

- Plug and play, pre-assembled system for easy installation
- Expandable
- Compact footprint
- Easy operation
- Enclosed system

<table>
<thead>
<tr>
<th>Hydraulic Flow Rates – Skid Mounted</th>
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<tbody>
<tr>
<td>Channel Number</td>
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<tr>
<td>----------------</td>
</tr>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td>4</td>
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Stand Alone Press

- Expandable
- Easy integration into new or existing infrastructure
- Small footprint
- Integrate controls with customers SCADA system
- Fully enclosed
- Low operational speed
- Ability to operate continuously with little manpower required

Platforms, Conveyers, Sludge Dumpsters & Accessories
Evoqua Quality Assurance

Our aftermarket support includes:
• Factory-based customer service support
• Expert technical consulting and training
• Same-day shipment on many service and spare parts
• Repair and preventative maintenance services
• Emergency support services
• Equipment retrofits, upgrades and refurbishments

Field testing options:
• Factory-based testing available on bench top unit
• Only 1 gallon of material required for feasibility jar testing

QUESTIONS?
Interested in learning more about the Rotary Press?
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