Rotary Drum Thickener

ThickTech™

- Low Polymer Usage: Major Cost Savings vs. Competitors
- High Capture Rate
- Compact Footprint
- Little Operator Attention Required
- Low Operation and Maintenance Cost
Why Thicken Sludge

Thickening Sludge increases digester capacity, reduces hauling costs and can be used as a pre-thickener to increase capacity of other dewatering equipment. Example: 192,000 gallons can be reduced to 13,440 gallons of sludge per day (0.5% to 7% solids at 400 gpm)

The Parkson ThickTech™ Rotary Drum Thickener (RDT) is the industry leading sludge thickener. This is due to unmatched performance with sludge volume reduction of 90% and a 98% capture rate. In addition, this superior performance is completed using very low amounts of polymer. The ThickTech™ system is quite compact and requires less floor space than other thickeners. It is economical to operate due to low horsepower, low water consumption and low polymer requirements.

### Why Rotary Drum Thickeners
- Fully enclosed – clean
- Odor control capability
- Smaller footprint
- Indoor/outdoor installation
- Ease of operation
- Low polymer usage

### Why Choose the Parkson ThickTech™
- Industry leading performance
- Quality
- Superior design
- Experience: over 400 ThickTech installations
- Save cost on polymer

### Cost Savings Through Superior Design
A 400 GPM ThickTech™ RDT can save users ~$860,000 or more in reduced polymer consumption over a 15-year period vs. a leading competitor. Savings are based on a side-by-side pilot test conducted by an independent third party.

### Summary of Comparison Report
(ThickTech vs. Leading Competitor)

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<td>Thickened Sludge</td>
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<td>Polymer Use</td>
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* 3% net discount rate

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How the ThickTech™ Outperforms Other RDTs

Superior Drum Design

Staged Screens:
– Dewatering occurs in four distinct dewatering stages divided by split augers
– Woven wire mesh size can be changed between stages to maximize dewatering

Roll Bars:
– Flip sludge for additional water removal

Woven Wire Mesh Filtration Media:
– Provides significantly more open area than wedge wire or perforated plate
– Easily removable

Other Special Features:
– Perforated stainless steel support media
– Split augers
– Detention rings with ports to adjust sludge detention time
– Self cleaning spray header

Low Shear Flocculation Tank
Tangential Inlet and Outlet: All polymer mixing occurs prior to the sludge entering the flocculation tank. The tank is where the sludge and polymer mixture flocculates together before entering the drum. It is critical that detention time, but not mixing occurs. By having the inlet and outlet tangential to the tank, the Parkson ThickTech design maximizes flocculation.

General Performance Specifications

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<th>Capacity</th>
<th>25 GPM – 400 GPM (25, 50, 100, 150, 200, 300 and 400)</th>
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<td>Inlet Flow</td>
<td>0.5% - 1.5% Solids</td>
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<tr>
<td>Outlet Flow</td>
<td>5% - 8% Solids</td>
<td></td>
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<tr>
<td>Typical Polymer Usage</td>
<td>5-10 lbs (100% active)/ton of sludge (dry wt.)</td>
<td></td>
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<td>Solids Capture</td>
<td>98%+</td>
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Polymer Cost by Dose

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<th>Polymer Use</th>
<th>Cost Over 10 Years</th>
<th>10-Year Difference from Base Case</th>
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<tr>
<td>5 lbs/Dry-Ton</td>
<td>$520,416</td>
<td>$0</td>
</tr>
<tr>
<td>10 lbs/Dry-Ton</td>
<td>$1,040,832</td>
<td>$520,416</td>
</tr>
<tr>
<td>15 lbs/Dry-Ton</td>
<td>$1,561,260</td>
<td>$1,040,844</td>
</tr>
<tr>
<td>20 lbs/Dry-Ton</td>
<td>$2,081,680</td>
<td>$1,561,264</td>
</tr>
<tr>
<td>25 lbs/Dry-Ton</td>
<td>$2,602,100</td>
<td>$2,081,684</td>
</tr>
<tr>
<td>30 lbs/Dry-Ton</td>
<td>$3,122,520</td>
<td>$2,602,104</td>
</tr>
<tr>
<td>35 lbs/Dry-Ton</td>
<td>$3,642,940</td>
<td>$3,122,524</td>
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* This table is based on 1,000 GPM @ 1.0% solids inlet sludge concentration

Parkson ThickTech™ Dose Range

Polymer Dose of Competitors
**Screening Material**

**The ThickTech™ Way**
Woven wire mesh has more open area and better water release for more efficient thickening

**The Competition**
Perforated sheet and wedge wire drums have significantly less open area and lower solids capture

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**Flocculation Tank Design**

**The ThickTech™ Way**
Maximum detention time with low fluid shear

**The Competition**
Direct inlet and outlets cause turbulence and fluid shear that break up and reduce floc development

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**Internal Drum Components**

**The ThickTech™ Way**
Internal drum components such as roll bars, split augers, flights and detention ports roll, flip and detain sludge for maximum water release.

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**Parkson**

- Fort Lauderdale
- Chicago
- Kansas City
- Denver
- Dubai

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[Visit Website](www.parkson.com)