Parkson™
Treating Water Right

ThickTech™

Rotary Drum Thickener

- Low polymer usage: major cost savings vs. competitors
- High capture rate
- Compact footprint
- Minimal operator attention required
- Low operations 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).

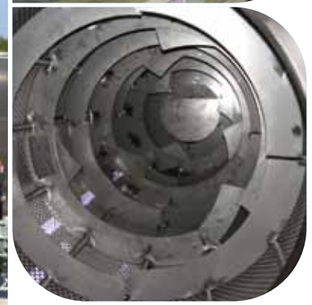
The Parkson ThickTech™ Rotary Drum Thickener (RDT) is the industry leading sludge thickener. This is due to unmatched performance with sludge volume reduction of 90% and a 98% capture rate. In addition, this superior performance is completed using very low amounts of polymer. The ThickTech™ system is 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 200 ThickTech™ installations



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.

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)

	Parkson	Competitor
Inlet sludge	400 GPM @ 0.95-1.37% solids	400 GPM @ 0.95-1.37% solids
Thickened sludge	6.6%	6.6%
Polymer use	72 lbs/day	168 lbs/day
Polymer cost (@ $2/lb)	$52,458/year $645,028/15 years*	$122,402/year $1,505,065/15 years*

* 3% net discount rate

General Performance Specifications

Capacity	25 GPM – 400 GPM (25, 50, 100, 150, 200, 300 and 400)
Inlet flow	0.5% - 1.5% solids
Outlet flow	5% - 8% solids
Typical polymer usage	5-10 lbs (100% active)/ton of sludge (dry wt.)
Solids capture	98%+

Polymer Cost by Dose

Polymer use	Cost over 10 years	10-year difference from base case	
5 lbs/Dry-Ton	$520,416	$0	**Parkson ThickTech™ dose range**
10 lbs/Dry-Ton	$1,040,832	$520,416	
15 lbs/Dry-Ton	$1,561,260	$1,040,844	
20 lbs/Dry-Ton	$2,081,680	$1,561,264	**Polymer dose of competitors**
25 lbs/Dry-Ton	$2,602,100	$2,081,684	
30 lbs/Dry-Ton	$3,122,520	$2,602,104	
35 lbs/Dry-Ton	$3,642,940	$3,122,524	

* This table is based on 1,000 GPM @ 1.0% solids inlet sludge concentration

Screening Material

The ThickTech™ way

Woven wire mesh has more open area and better water release for more efficient thickening.

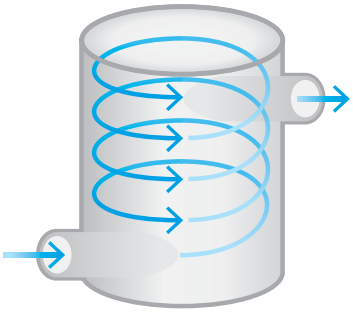
The competition

Perforated sheet and wedge wire drums have significantly less open area and lower solids capture.

Flocculation Tank Design

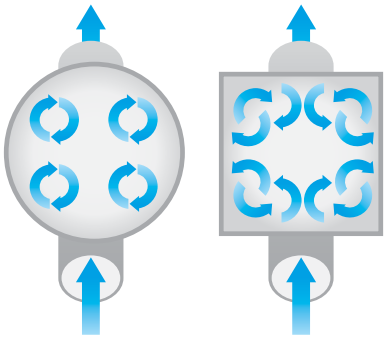
The ThickTech™ Way

Maximum detention time with low fluid shear.



The competition

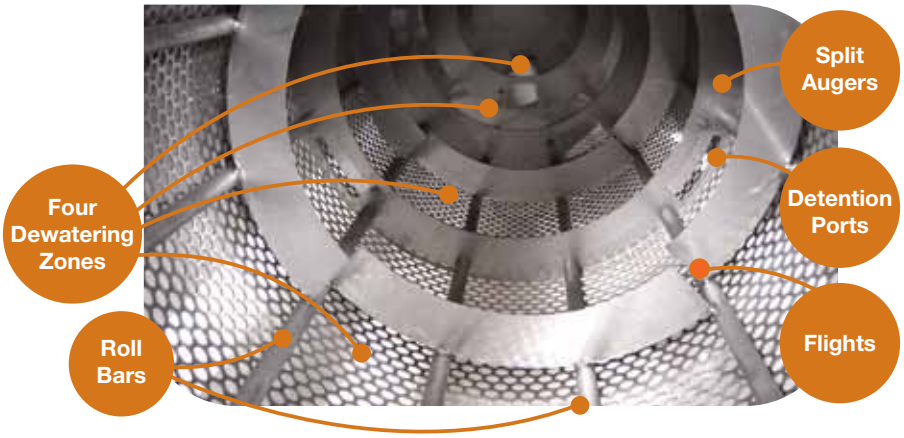
Direct inlet and outlets cause turbulence and fluid shear that break up and reduce floc development.



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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50 YEARS 2010

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