Parkson™
Treating Water Right

ThickTech™

Rotary Drum Thickener

- Highest performance
- Lowest cost of ownership
- Adjustable to changing sludges
- Designed to build floc
- Sludges: waste activated, primary, blends, recuperative

Why Thicken Sludge?

- **Increase digester capacity**
- **Reduce hauling costs**
- **Pre-thicken before other dewatering equipment**

Sludge thickening, for example, can reduce 192,000 gallons of sludge per day down to 13,400 gallons by thickening 0.5% feed to 7%. The higher concentration of solids equates to more pounds of solids stored in the same volume area.

The industry leading Parkson ThickTech™ Rotary Drum Thickener (RDT), with over 300 installations, consumes the lowest amount of expensive polymer while offering the highest capture rate of 98% and therefore, the lowest cost of re-treatment. Units are compact, require little operator attention and are pre-engineered for easy installation.

Why Rotary Drum Thickeners

- Fully enclosed – clean
- Odor control capability
- Smaller footprint
- Indoor/outdoor installation
- Ease of operation
- Low polymer usage
- Replace centrifuges
- Lower power costs
- Replace DAFs

Why Choose the Parkson ThickTech™

- Industry leading performance
- Quality of design
- Over 300 installations
- Designed to build floc
- Lowest polymer consumed
- Adjustable performance for changing sludges

Mobile on-site pilot testing

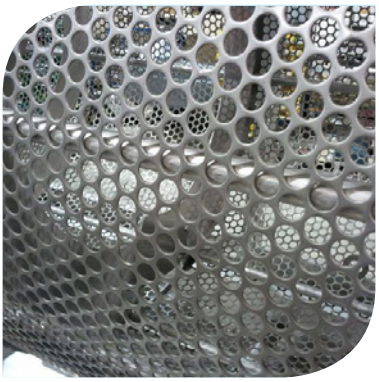
Cost Savings Through Superior Design

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*
	$860,037 savings	

* 3% net discount rate



How the ThickTech Outperforms Other RDTs

Superior Drum Design Controls Sludge Advancement

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 over for additional water removal

Woven Wire Mesh Filtration Media:

– Provides significantly more open area than wedge wire or perforated plate

– Easily removable and replaceable to match sludge

Other Special Features:

– Perforated stainless steel support media

– Split augers

– Detention rings with ports to adjust sludge detention time

– Self-cleaning spray header with booster pump

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 grow into a popcorn floc before entering the drum. Tangential feed and outlets promise low shear and maximize floc size.

General Performance Specifications

Capacity	50 GPM – 400 GPM (50, 100, 150, 200, 300 and 400)
Inlet	0.5% - 1.5% solids
Outlet	5% - 8% solids
Typical Polymer Usage	5-10 lbs (100% active) / ton of sludge (dry wt.)
Solids Capture	98%+ for low retreatment costs

Polymer Cost by Dose

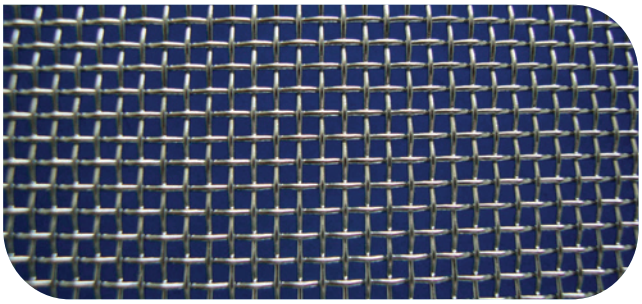
Polymer Use	Cost Over 10 Years	10-Year Difference from Base Case	
5 lbs/Dry-Ton	$520,416	$0	**Parkson ThickTech™ Dose Range**
10 lbs/Dry-Ton	$1,040,832	$520,416	
15 lbs/Dry-Ton	$1,561,260	$1,040,844	
20 lbs/Dry-Ton	$2,081,680	$1,561,264	**Polymer Dose of Competitors**
25 lbs/Dry-Ton	$2,602,100	$2,081,684	
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

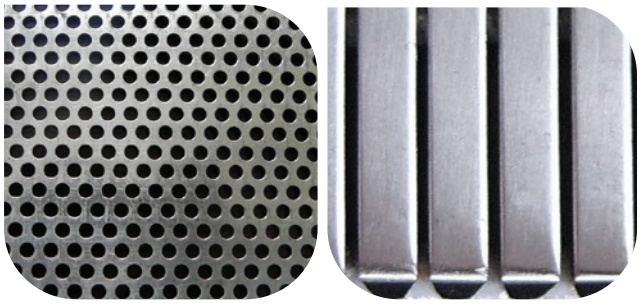
The ThickTech Way

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



The Competition

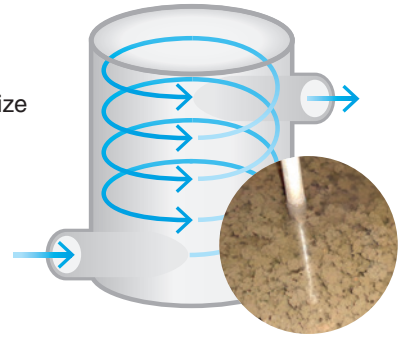
Perforated sheet and wedge wire drums have significantly less open area and lower solids capture. Multi-layered poly cloths can be hard to clean.



Flocculation Tank Design Builds a Popcorn Floc

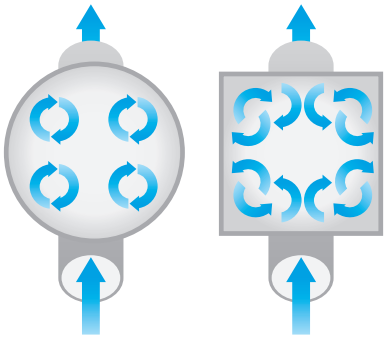
The ThickTech Way

Tangential inlet and outlet openings maximize detention time and flocculation, reducing shear from turbulence.



The Competition

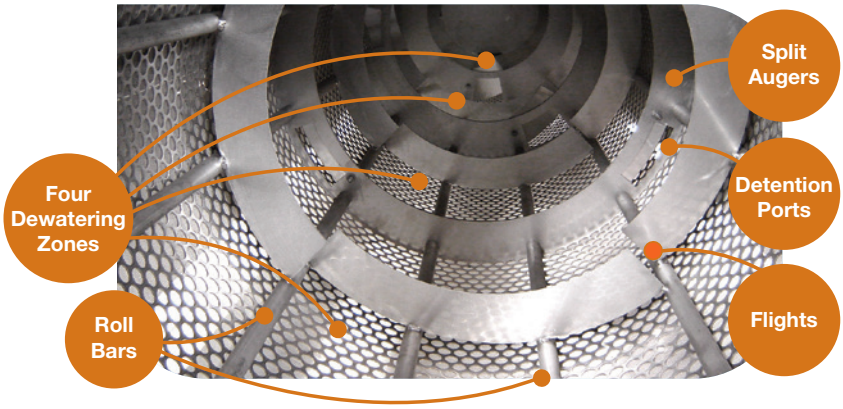
Direct inlet and outlets creates turbulence and fluid shear that break up and reduce floc development.



Internal Drum Components

The ThickTech Way

Internal drum components such as roll bars, split augers, flights and detention ports roll, flip and control sludge movement through the drum and detain sludge for maximum water release.



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RDT