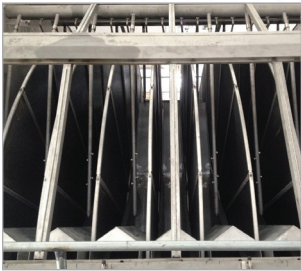
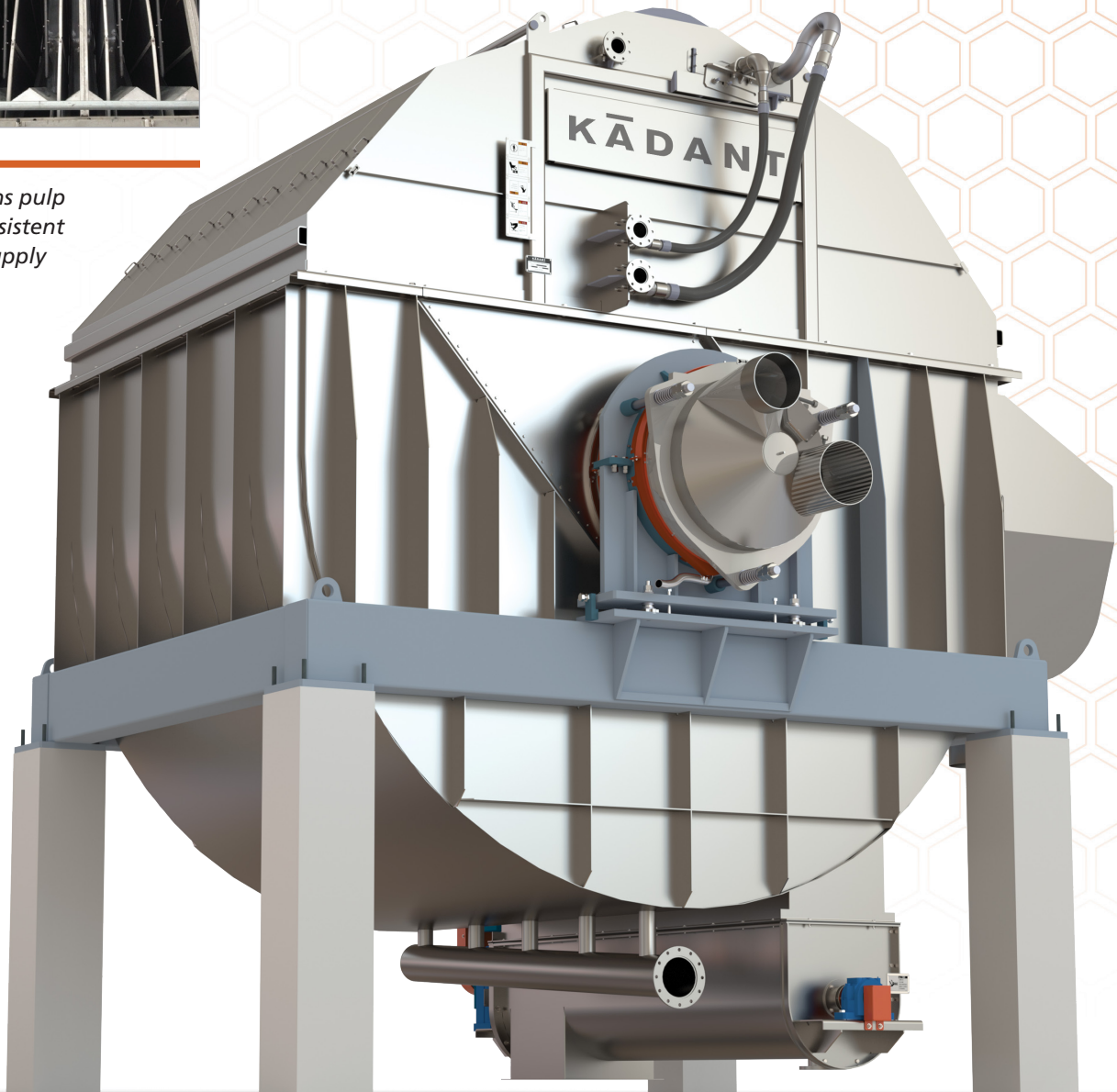


Direct Discharge™ Disk Filter

Optimal stock thickening
and water recovery



*Thickens pulp
for consistent
fiber supply*



Direct Discharge™ Disk Filter

Application

The Direct Discharge Disk Filter (DDDF) is a save-all, pulp thickening system for any pulp application. This unit requires very low external power and operates under a self-generated vacuum created by a gravity drop-leg and the filtrate flow. It has an extremely high fiber capture rate and produces clear filtrate water.

Results

The disk filter's main advantage over other dewatering equipment is that it retains most of the fibers. It produces a very clear filtrate that can be used in clean water supply systems.

A Better Design

On conventional disk filters, pulp collected on the disk has to unnecessarily pass around the stock delivery chute, risking damage to the disk and other sections of the filter from unwanted build-up.

On the Direct Discharge Disk Filter, the thickened pulp efficiently exits the vat on the opposite side where there is no restriction, allowing a precisely formed, thickened mat to fall unimpeded into the stock chute.



Fiber pulp mats created at the desired thickness

The main advantage over other dewatering equipment is that it retains most of the fibers.

Benefits



Increased capacity

- Produces thicker pulp mats than conventional disk filters
- Extended vacuum drying zone maximizes water reclamation
- In many cases, the unit can be operated faster than conventional filters



Stable operation

- Direct discharge design allows for thicker pulp mats to enter the stock chute unimpeded and without damaging build-up



Greater efficiency

- Optimized to the smallest possible footprint for more flexibility



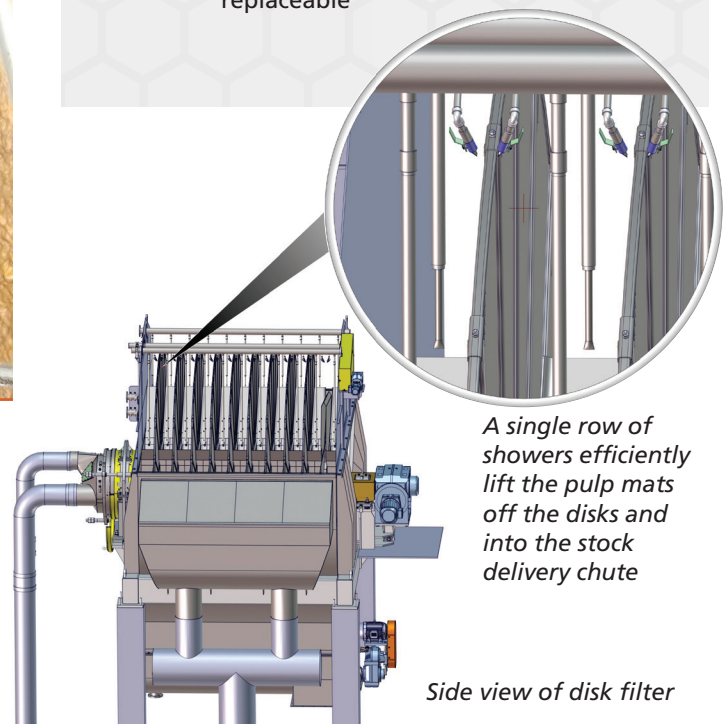
Increased flexibility

- Adjustable bridges in the filtrate valve fine tune clear and cloudy filtrate collection



Low maintenance

- Durable disk sections feature rapid release dismounts and are easily replaceable



A single row of showers efficiently lift the pulp mats off the disks and into the stock delivery chute

Side view of disk filter

Allows water to be returned to up-front processes virtually fiber-free

5 DELIVERY ZONE

A **knock-off shower** lifts the pulp mat off the disk section.

The pulp mat passes smoothly through the **stock chute** into the **repulper conveyor**. High pressure showers clean the disks and the cycle starts again.

4 DRYING ZONE

The vacuum continues to dry the pulp mats after they leave the vat.

3 VACUUM ZONE

The self-generated vacuum created by the drop leg draws filtrate through the thickened pulp mats.

Clear filtrate flows through the disks to the center shaft, filtrate valve, drop leg, and seal pot.

Clear Filtrate

Water containing very few fibers extracted from the vacuum zone

Cloudy Filtrate

Water containing some fibers extracted from the atmospheric zone

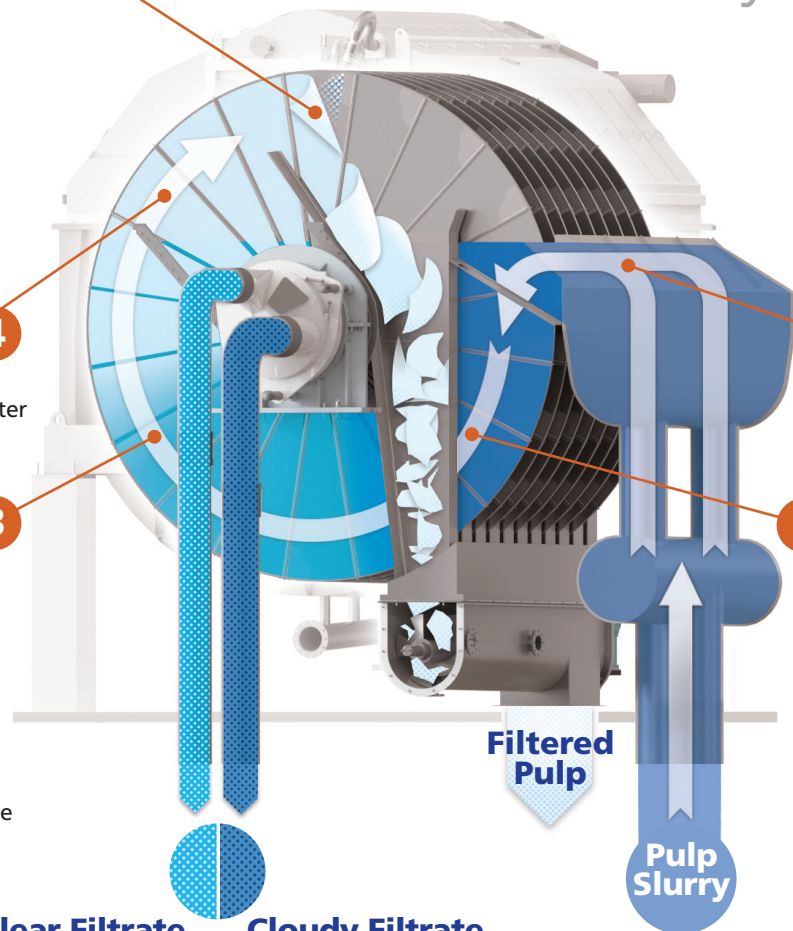
1 FEED ZONE

The pulp slurry is distributed to the disk filter vat.

2 ATMOSPHERIC ZONE

Pulp begins to gather on the surface of the disk as it rotates into the pulp slurry forming a pulp mat on the disk.

Cloudy filtrate passes through the pulp matted disks surfaces and flows to the center shaft, filtrate valve, drop leg, and seal pot.



Basic System Operation

The DDDF consist of a series of filter disks that rotate through a covered vat of pulp slurry. The number of disk and their rotation speed through the vat is adjusted to accommodate the characteristics of the slurry and production rates required.

The filter disks are sectioned and mounted to a central shaft containing intake channels controlled by a filtrate valve. Each section of the filter disks is connected to an individual intake channel. These intakes are isolated so filtrate cannot flow between channels.

The filtrate valve regulates two zones, isolating each to deliver two unique and adjustable filtrate splits. The first, the **atmospheric zone**, delivers a **cloudy filtrate**.

The second, the **vacuum zone**, is connected to a power saving, self-generated vacuum to deliver a **clear filtrate**. Filtrate gets clearer and fiber catch rate improves as pulp accumulates on the disk surface.

In the **drying zone**, the vacuum applied to the pulp mat continues as they leave the vat to thoroughly drain the pulp. This produces thick, precisely dried pulp mats ensuring optimum water reclamation.

A Direct Discharge Disk Filter pilot installation is available for performance demonstration on any kind of pulp. **Contact Kadant Black Clawson for more information.**

A Trusted Partner

Stock preparation is in our DNA. We know this industry like few others – your equipment, your processes, and your challenges. We have the know-how and tools to elevate the efficiency of your production. Our team can help monitor, maintain, and upgrade your line, providing process improvements, replacement parts, rebuilds, and comprehensive maintenance plans.

We understand what it takes to remain competitive, protect your investment, and extend the life of your stock preparation assets. To that goal, we offer:

- Field services, inspections, and audits
- Rebuilds and retrofits
- Upgrades and modernizations
- Maintenance and service contracts
- Process control solutions
- Replacement upgrades and spare parts

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Expertise to Empower You

Our team is there for you at every step. We help you select the right options to best meet your specific needs.

We have generations of experience, a history of innovation, and a proven record of success across the globe.

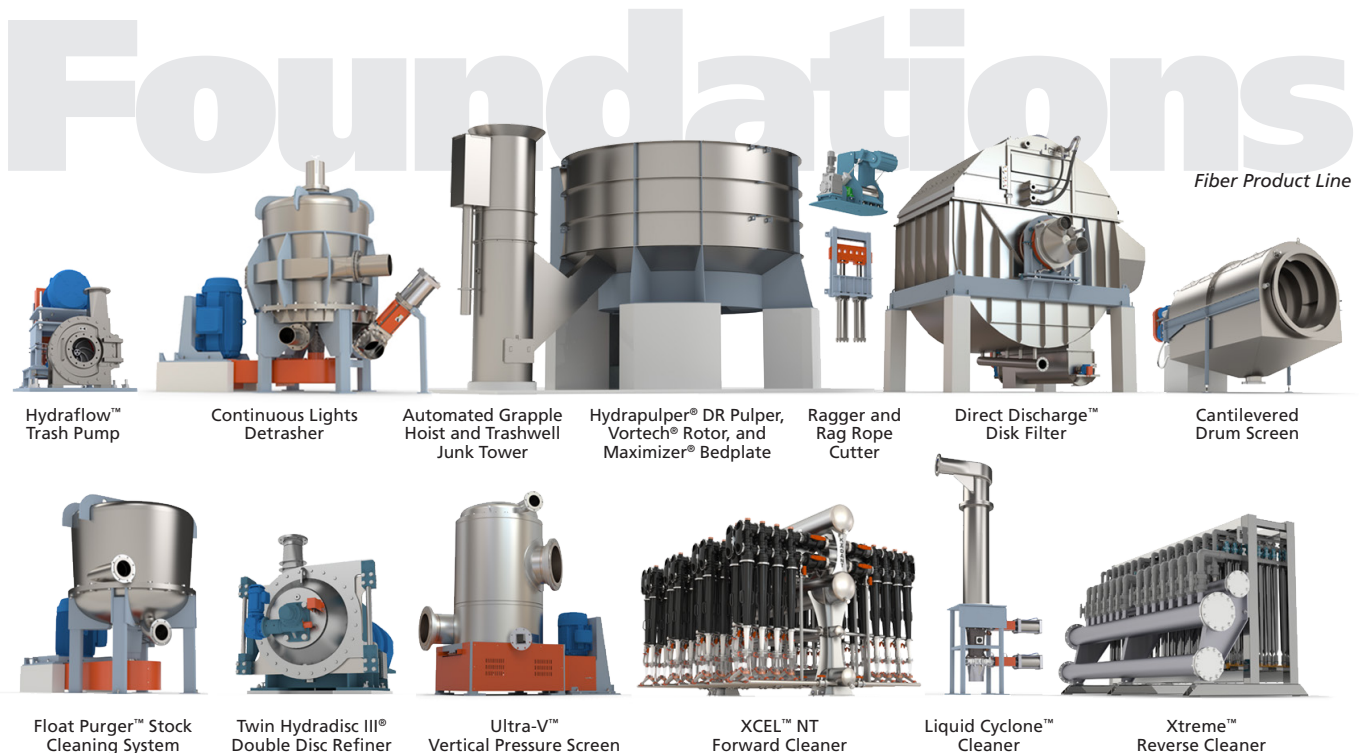
Our skilled engineers, process professionals, application experts, manufacturing, and field service teams have thousands of successful installations to their credit.

Get You Running, Keep You Running

Our technical service and support teams are ready. We provide superior guidance in the planning, design, engineering, installation, and start-up of your systems. Our products and expertise cover the full range of stock preparation and pulping, including:

- Pulping
- Screening
- Cleaning
- Thickening
- Deinking
- Detrashing
- Refining and dispersing
- Reject handling
- Recovery systems
- Heat transfer
- Pulp washing
- Recausticizing

The Kadant Black Clawson **Foundations** product line offers a full range of fiber processing equipment and services.



For patent information about this and other Kadant products visit <https://kadant.com/en/patents>

KADANT

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Direct Discharge Disk Filter
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