

# Fiber Retriever™ Systems

## Reclaiming fiber, reusing water, saving money

### Benefits:

- **Recovers usable fiber** from process stream (e.g. washers) for return and reuse in salable pulp stream—reducing mill fiber requirements.
- **Filtrate water** is sufficiently clean to be removed in wash shower systems—reducing incoming water requirements and treatment costs
- **Reduces flow** sent to waste stream—thereby reducing treatment and compliance costs.
- **Provides classification** function for fiber, retaining all fiber down to certain length.
- **Provides excellent washing** of recovered fiber—ash content is greatly reduced.
- **Brightness** of recovered pulp is enhanced.

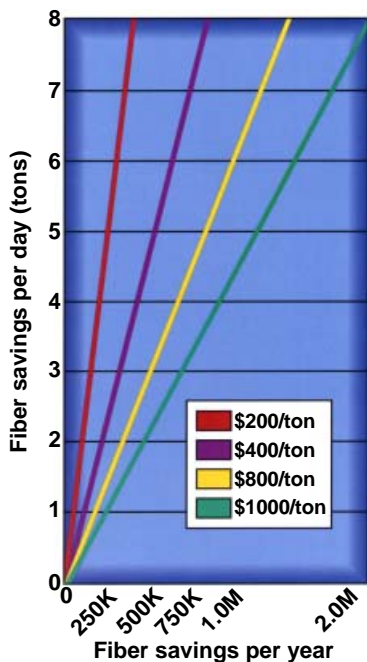


Fig. 2: Fiber reclamation paybacks. When fiber costs \$800/ton, reclaiming 8 tons a day saves over \$2,000,000 a year.

A. Fiber Retriever installation is supplied with low vacuum fans and air/water separators.

B. Proprietary long life rotary joint and heavy duty reducer assure dependable performance with minimal maintenance.

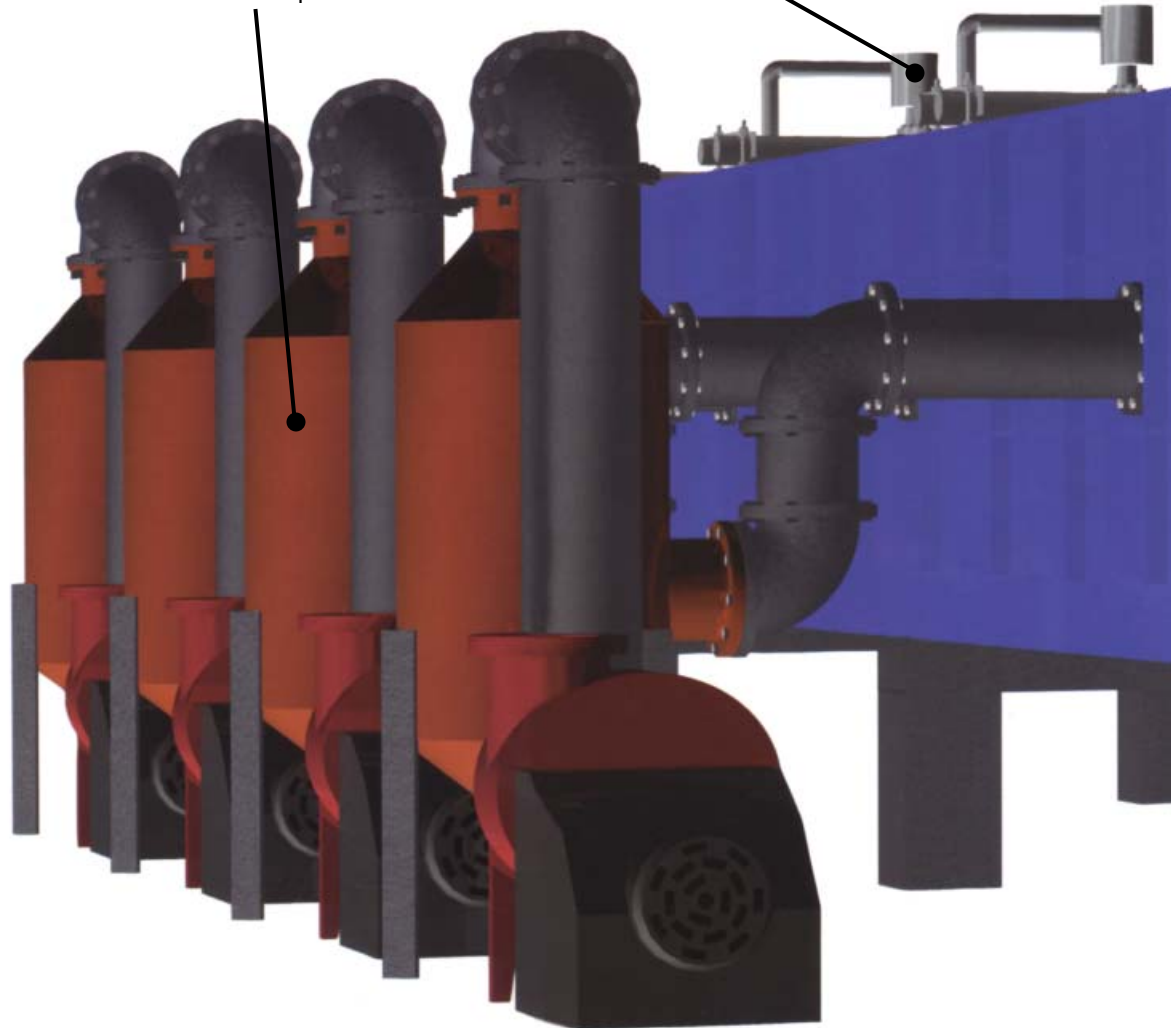


Fig. 1: A Kadant AES vacuum-assisted strainer unit used in fiber retrieval applications.

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C. Rotating shower arms use Fiber Retriever filtrate to keep filter media open and to wash fiber.

D. Replaceable filters are selected specifically for each application from a wide range of available media.

E. Outer tanks are available in FRP (shown here), 304 stainless steel or 316 stainless steel. Tanks can be configured as separate filter units, or in a modular, multiple-unit "Multipack" configuration.

## Effective, efficient, reliable fiber reclamation

### Benefits:

- Flexible design to better meet specific flow/floorspace requirements. Fiber Retriever may be used as a single unit, as multiple single units, or as a multi-unit module.
- Design flexibility and compact dimensions allow easy installation.
- Minimal power requirements—generally less than .011 HP/GPM.
- On multiple-unit installations, a single unit may be shut down for maintenance while other units continue to operate.
- Low maintenance design, with replaceable screens and reliable components.

## A system flexible enough to meet all your requirements.

The Kadant AES Fiber Retriever fiber reclamation system recognizes the differing needs of each application. So the Fiber Retriever system is designed to be configured to meet nearly any application's specific flow and space requirements.

Once an application's filter media requirements are determined, the Fiber Retriever system is designed, using one or more of the five basic models. When two or more filter units are combined in an application, they can be configured as separate filters with common piping, or as a "Multipack" unit—where all filter units share a common outer tank and piping. Individual vacuum fans and air/water separators can be dedicated to each filter, or a centralized separator and fan can be used to supply vacuum to the entire installation.

In most applications where filter media of 100 mesh (150 micron) or finer is used, the filtrate can be recirculated through the showers without further treatment. Occasionally, filtrate must be circulated through pressure filters before it can be reused as shower water.

Fig. 1: A Kadant AES vacuum-assisted strainer unit used in fiber retrieval applications.

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## Built for efficient operation, long life and easy maintenance

All Kadant AES Fiber Retriever Systems are designed for low maintenance and maximum uptime. Strainer tanks for single-unit applications and multiple stand-alone unit installations are usually constructed of FRP fiberglass, which combines excellent chemical resistance with light weight and low cost. Stainless steel construction is optional, and is normally used with Multipack configurations. Shipped as modules, these tanks are welded together into the Multipack configuration at the application site.

The low rpm shower assembly is constructed of 316L stainless steel, and includes a proprietary rotary joint that has a unique ball bearing design. Shower arms are individually removable for nozzle maintenance using quick disconnect unions.

Vacuum is generated by a single-stage, 1750 rpm, 316 stainless steel fan. The fan is belt-driven and has a quick opening access door for inspection. An air/water separator is included to protect each fan.

## Real-world results

Case histories reported in trade journals demonstrate the high payback and related benefits from a properly designed Fiber Retriever system.

A Kadant AES Multipack installation allowed a recycle pulp mill to significantly increase yield, returning high quality fiber to the pulp process that otherwise would have disposed of in a landfill. This mill reports that this amounts to over \$2.5 million a year in savings.

Fiber quality is also improved. Brightness gains of 20 ISO have been reported in the recovered fiber. This is due to the washing action of the rotating showers as they sweep the captured fibers down the filter media to the exit port. Since a mat is not formed during filtration, dirt and other small contaminants are washed through the screen and rejected with the filtrate.

## In-mill trials

You can evaluate the Fiber Retriever's performance and benefits in your own mill. Kadant AES has trial units available for in-mill side stream testing. The full-scale Model VA5 strainer units can accurately determine the fiber reclamation potential in your application. In addition, the trial unit provides realistic samples for lab analysis of fiber quality, brightness, etc. The self-contained units are easy to install and operate.

## Fiber retrieval applications

- Deinking Mills: washing effluent, clarifier influent
- Pulp Mills: washer effluent, clarifier influent, screening cleaner rejects
- Paper Mills: rich white water, wire pit water, clarifier effluent, sewer water, cylinder mold effluent

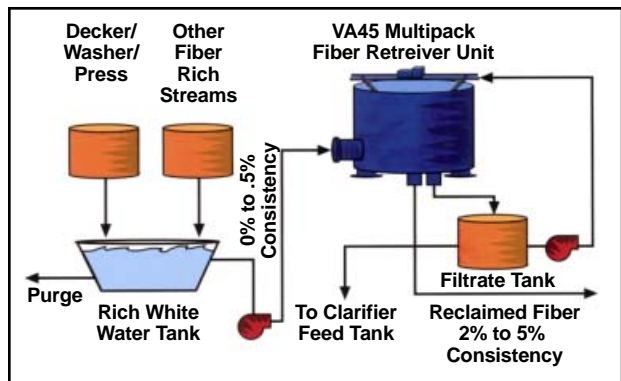


Fig. 4: A typical fiber reclamation application using the Fiber Retriever Multipack system.

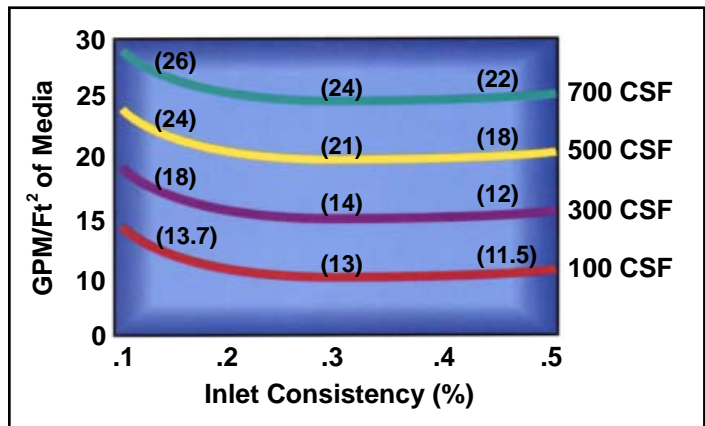


Fig. 5: Typical Fiber Retriever capacities.

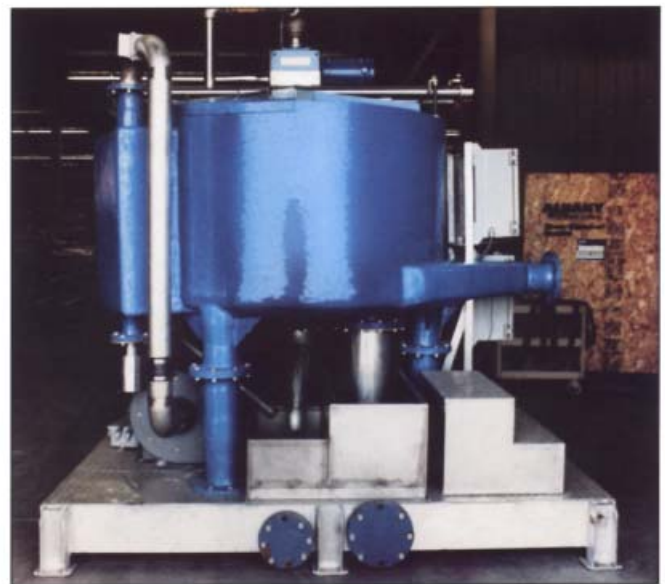


Fig. 6: The VA5 trial unit

- Flow Capacity: 100 — 300 GPM
- Inlet Size: 6" diameter
- Electrical Requirements: 460v - 3 phase, 20 amp connection
- Height: 12.5 ft. (includes screen replacement space)
- Gross Weight: 2000 lbs. dry; 5200 lbs. flooded

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Fig. 3: A Multipack modular unit using four Fiber Retriever modules. Insert photo shows covers in place.

## For Fiber Reclamation & Process Water Reuse

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