10 strategies to improve your OCC line

Low-cost upgrades with high-value results

AFT
AIKAWA GROUP

Reduce costs, improve OCC pulp quality

Some suppliers only want to sell "new." We support a more intelligent approach: building on what you already have in place. **Here are 10 strategies to improve OCC quality and throughput** – and reduce your production costs.

When you have unlimited capital money available, you will be amazed at the number of suppliers who are eager to sell you their new, pre-configured "solutions." But, when money is tight, what kind of "solutions" do they propose?

The best value-for-money often comes from combining your existing equipment with simple, effective upgrades that extend the life, increase the ROI, and increase the efficiency of your operations with minimal disruption.

Aikawa Fiber Technologies (AFT) works with you to recommend targeted upgrades – getting you maximum performance at the lowest possible cost.

Yes, AFT can deliver complete OCC lines enhanced with the latest technology. Many mills, however, have process challenges that do not require a new line.

Challenges such as:

- Flakes
- Stickies
- Plastic contaminants
- Fiber loss
- Bottlenecks
- Flexibility in grade changes
- Energy consumption
- Abrasion and wear of components

AFT: Science Applied

Strategy #1:
get an experienced, practical partner

When an AFT specialist walks into your mill, he or she is backed by over 110 years of fiber processing experience. This experience and the practical application of it is what we call Science Applied.

AFT process, application, and mechanical specialists help you get high-value results. We support you with technologies, process expertise, and maintenances services based on sound science — applied by real experts who can solve your process problems.

We offer complete mill services:

- Process and mechanical audits
- Maintenance planning
- Process optimization
- Engineering: basic to mechanical turnkey
- Training and start-up services
- Performance testing

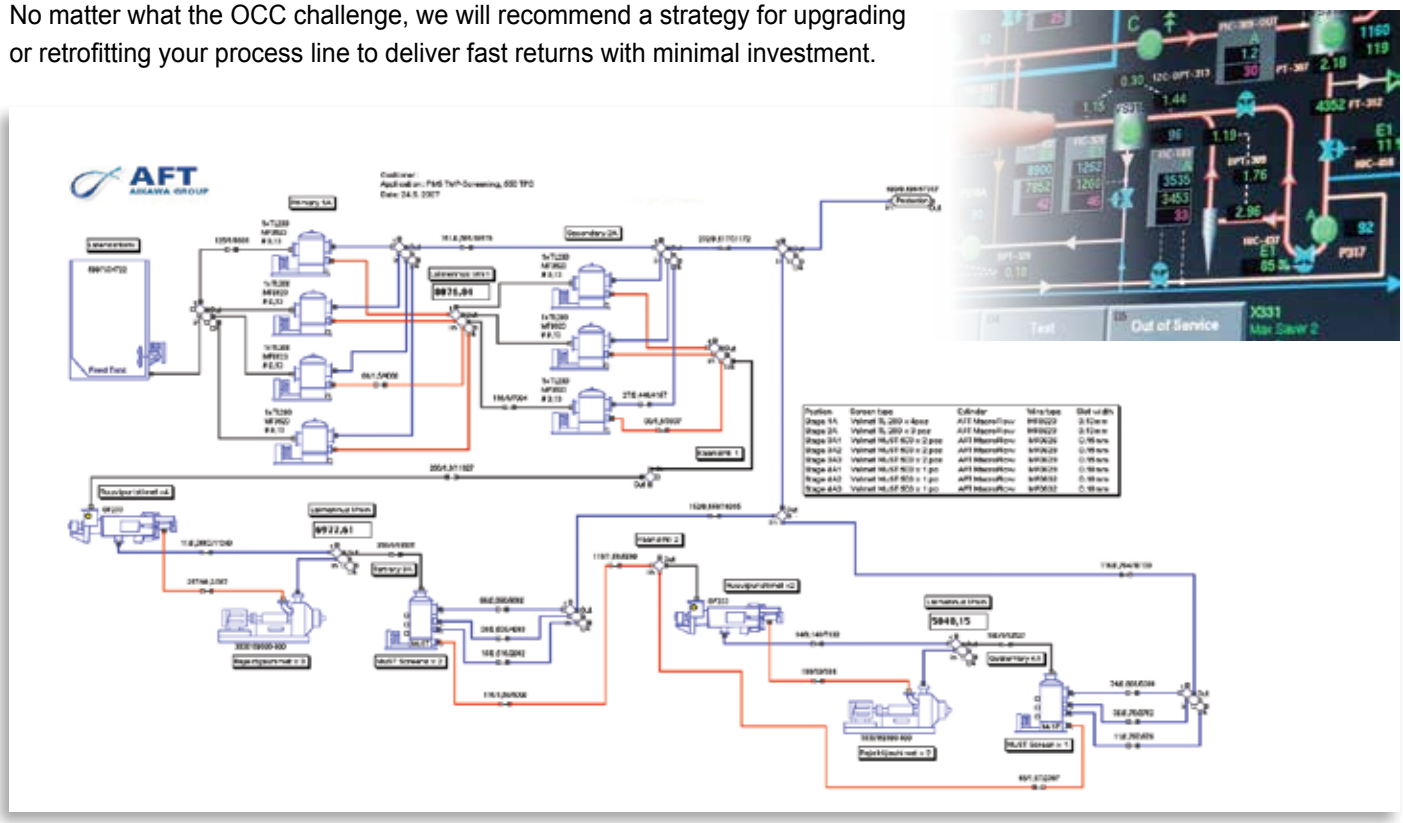
After a visit to learn about your current operating data and equipment configuration, we can perform “what-if” scenarios to forecast the results of upgrade recommendations. This takes the guesswork out of projecting investment returns. We also have a full-scale pilot facility and can do in-mill trials. We can also assist with maintenance planning and wear monitoring to ensure maintenance and component replacement is done with the best economical advantage and inventory management.

Strategy #2:
simulate before you change anything

Invite us into your mill to simulate your current process in our SimAudit™ software. This proprietary software was developed through extensive experience on virtually every grade of pulp and all brands of OEM equipment.

With SIMAudit™ computer simulation, AFT application engineers can simulate your process and predict results from potential changes. This helps you accurately project the results and ROI from a proposed change.

No matter what the OCC challenge, we will recommend a strategy for upgrading or retrofitting your process line to deliver fast returns with minimal investment.



Strategy #3:
upgrade your pulping and detrashing

The pulper is the start of your OCC system. Efficient pulping, trash removal, and deflaking are critical to the quality of your end product and the performance of downstream processes. Additional detrashing capacity may be helpful, or perhaps your pulper would benefit from an upgraded rotor. The advanced Aikawa Helix pulper rotor may be just the answer. The Helix rotor can eliminate deflaking issues, help to reduce fiber loss, and save energy. The addition of Smart-Strainer™ plates, with their segmented top changing design, reduces the cost of pulper plate change-outs.

Strategy #4:
improve your screening

All AFT screening solutions are based on sound science, not guesswork or trial-and-error.

Our screening capabilities include:

- Complete screening systems
- Single screens
- Cylinders
- Rotors
- Mechanical audits and wear monitoring
- Optimization services

AFT's team of specialists has an extensive toolset to help optimize your screening processes. We work with you to determine whether a new screen is needed or whether a component upgrade will meet your investment return goals.

Improving the efficiency of your rejects screening equipment delivers immediate benefits:

- Fiber recovery
- Energy reduction
- Extended component life

Screening solutions designed to improve OCC quality and minimize energy consumption include:

- MaxFlow™ coarse and fine screens
- MaxFlow-HB™ headbox screens
- MaxFlow-F™ fractionation screens
- MaxSaver™ fiber recovery
- ADS™ separator multi-function screen
- AlphaScreen™ coarse reject handling
- MaxFlow-FL™ filtrate screen

Strategy #5:
upgrade wear components for longer life

To extend the life of your screen cylinders in tough OCC applications, an upgrade to the MacroFlow2™ screen cylinder may be in order. MacroFlow2 can deliver TWICE the accuracy and precision of any cylinder on the market.

An average wedgewire cylinder has over 10,000 connection points with over 500 parts. The manufacturing technologies employed in the producing MacroFlow2 are designed to eliminate the potential weak points. This unique assembly technology allows reliable performance over a long period of time.

The seamless construction of MacroFlow2 ensures both roundness and cylindricity — important considerations to ensure precise clearance between rotor and cylinder around the entire circumference of the screen. This means that the tolerances and clearances between cylinder, rotor, and screen body will be easily met — avoiding unnecessary wear.

MacroFlow2™ Cylinder

GHC™ Rotor

Strategy #6: lower your energy bill

Upgrading a screen with a rotor that permits reducing rotational speed is an effective way of reducing power consumption. The AFT GHC™ rotor provides the optimal balance of turbulence and negative pressure pulsations to ensure energy-efficient, reliable screen operation.

Compared to an OEM rotor in a pressure screen, the GHC rotor consumes 35% less power at the same tip speed, providing substantial “drop-in” savings. Moreover, the screen capacity can be achieved at lower tip speeds, for additional “slow-down” savings.

Strategy #7: think “multi-function” to save more money

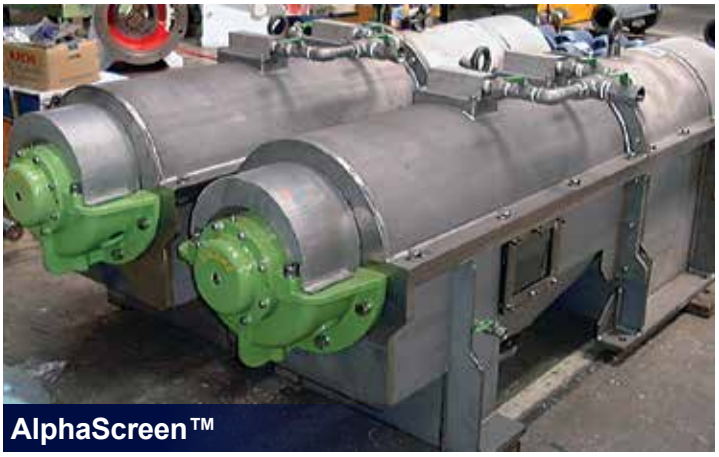
AFT provides certain machines that combine more than one function in the same unit. This not only reduces capital investment costs, but also is perfect for drop-in replacements where real estate is at a premium.

One upgrade possibility is the ADS Separator™ which is a multi-function screen delivering exceptional deflaking performance combined with the removal of both lightweight and heavyweight contaminants. It is ideal for OCC furnishes. The ADS Separator combines holes and slots to perform five distinct functions in the same unit: deflaking of paper flakes, vortex removal of lightweight contaminants, removal of heavy contaminants, coarse screening, and finer screening of strainer accepts. Stock processed through the ADS Separator can often be sent directly to the paper machine chest.

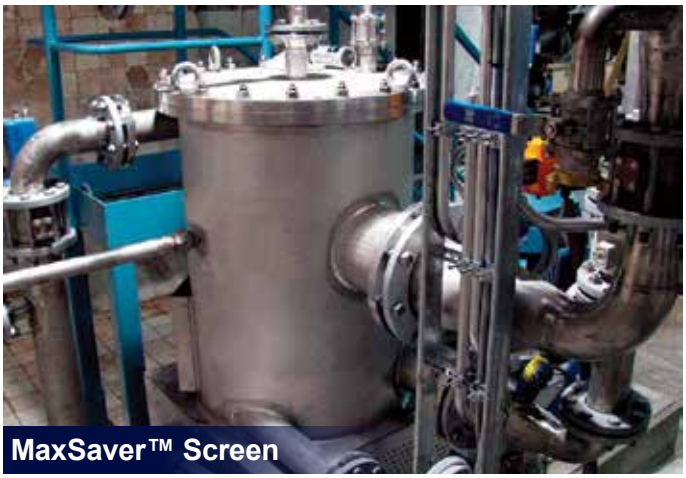
ADS™ Separator™

Strategy #8: recover good fiber from rejects

Plastic contaminants carry a lot of good fiber. Conventional screening systems typically are not the best method for fiber recovery with these coarse contaminants. An AFT upgrade recommendation may include the AlphaScreen™ for recovering fiber from large plastic contaminants. The AlphaScreen combines deflaking and coarse rejects handling in one unit, which may help a mill avoid further investments in pulping.



AlphaScreen™



MaxSaver™ Screen

Separating good fiber from lighter rejects (foam, stickies, and small pieces of plastic) is a particular challenge – one that the AFT MaxSaver™ screen was designed to tackle. The MaxSaver is a patented outflow and upflow rejects processing screen where heavy debris is removed early through a metal trap at the bottom of the screen and good fibers are recovered when the rejects are washed with sealing water before they are discharged from the outlet at the top of the screen.

Strategy #9: refine your refining

Low-intensity refining is very practical for OCC furnishes. A simple switch to Finebar® refiner plates can make a huge difference in refining efficiency and energy savings.

Finebar plates are produced using a patented manufacturing process that has unique advantages. This enables AFT to produce very fine bar patterns with exceptional strength and durability. Finebar plates are produced for all major LC refiners — disc and conical. Many OCC mills see a 15-20% energy savings by switching to Finebar. Even if energy savings are not the focus, Finebar plate life is typically 50-200% longer than conventional cast plates.

Strategy #10: take advantage of Science Applied

The science of flows, metallurgies, fiber suspensions, contaminant removal is important as the basis for equipment design and process efficiency.

But, this science is useless without real-world practical experience in applying it. That is why we focus on what we call Science Applied – a combination of knowledge plus experience focused on achieving measurable results in your mill. What kind or results? Improvements in pulping, detrashing, screening efficiency, stickies removal, energy consumption, fiber recovery, and longer component life.

Whether your goal is to improve your entire OCC line, or solve a problem with a single component, AFT can help. Our specialists use our brand of Science Applied to simulate your process and predict results from potential changes. We can help you identify and quantify energy reduction possibilities, fiber recovery and quality improvements, component life problems, and capacity issues.

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