



STARCH PROCESSING SYSTEMS

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The ProFlow Difference

Starch is one of the most important raw materials in the pulp and paper process. Inefficient, poorly designed starch handling systems can reduce availability, require cleaning and maintenance, and lead to product loss. In a multi-billion-dollar paper mill, these challenges can have a big impact on the bottom line.

ProFlow—with its 30 years of experience—offers a single, turnkey solution using the best available technologies to meet your specification.

Bulk Material Handling Systems

From bulk silos to systems for handling super sacks to individual bags, we can provide the system to accommodate all of your material handling needs.

Our systems are an efficient, labor savings meant to take advantage of economies of purchasing starch in bulk. Our capabilities include:

- Silos
- Conveyers
- Super-Sack Feed Systems
- Manual Feed Hoppers



Slurry System

ProFlow's customized slurry systems ensure paper quality by reducing bacteria formation that leads to equipment corrosion and maintenance issues. A ProFlow slurry system ensures high-quality coatings, while operation at maximum availability and throughput. Our systems include:

- Slurry Makedown Systems
- Slurry Metering Systems



Starch Cooking Systems

Featuring state-of-the-art PLC controls, a field-proven design, and the high-efficiency Q-Jet DSI Mixing Jet Cooker, the ProFlow line of starch cooking systems delivers exceptional starch cooking technology. Our automatic Wet End Cooker is the only system in the market that allows direct setting of starch concentrations. ProFlow offers various models for a wide range of size press and coatings applications. Our systems include:

- Wet End Cookers
- Size Press Cookers
- Coatings Cookers





ProFlow custom-designs every starch processing system in consideration of your specific needs and processes, to maximize product efficiency and reduce downtime.

Continuous Enzymatic Conversion Systems

Processed starch can be a tremendous expense for pulp and paper mills. ProFlow's Continuous Enzymatic Conversion systems allow mills to use the more cost-effective unprocessed starch in their plant, by converting raw starch directly at the process, which saves money in raw materials and reduces loss of material during batch losses. A continuous enzyme conversion system installed at the paper mill will pay for itself in the first year.



Feed Systems

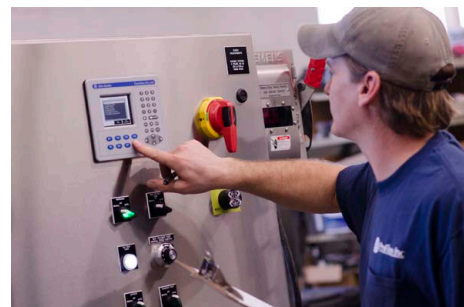
ProFlow designs and fabricates skids to optimize the starch handling process. ProFlow's systems allow you to dilute meter and split feeds to multiple points in the process. Control options easily integrate into cooking systems. Our solutions include:

- Post-Dilution Skids
- Metering Skids
- Splitter Skids
- Self-Filter Skids



Consultation Capabilities

ProFlow acts as a strategic partner to paper chemical and pulp and paper companies. We work with our partners to develop customized engineering solutions that meet the specific requirements of each project. Our skilled team of industry specialists, engineers, welders, and assemblers that have hands-on experience in all aspects of the pulp and paper industry, and can build-to-suit a wide range of systems and skids.



SERVICES AND CAPABILITIES

System Design, Fabrication, & Assembly

- Component selection
- Control panel design

Process Control

- Operator interface terminal
- Integration of PLC with existing DCS
- Data logging
- Closed loop control

Full System Documentation

- Drawings
- PLC/HMI programs
- Parts list
- Installation, operation & maintenance manual
- Weld maps
- Test documentation

AutoCAD® Design Programs

- AutoDesk® Inventor software
- Electrical design software
- P&ID design software

Full System Support

- Start-up assistance
- Engineer on call 24/7
- Remote system monitoring/adjustment via modem

Fabrication Expertise

- ASME-certified welding of carbon and stainless steels, and various alloys to ASME B31.1 and B31.3 standards
- ASME-certified U and R pressure vessel stamps
- Orbital welding

Testing Facilities

- Pressure and flow testing equipment
- Water supply loop
- Multi-voltage transformer/power source
- Steam boiler for testing

ProFlow Delivers Value and Results Through Expert Project Management

Design

Starting with initial contact, a project is assigned to a highly experienced project manager who is the dedicated liaison for the entire project. Where ProFlow starts in the process is up to the customer. From the most basic of preliminary designs to fully detailed plans, the ProFlow team will move your project from concept to design.

ProFlow uses state-of-the-art design software, P&IDs, 3D modeling of piping and structural layouts, mechanical, electrical and control panel designs, submitted as a bill of material, for the customer to review and approve.

Fabrication

After design approval, the project moves to ProFlow's full-service, ISO 9001-certified fabrication area. Our skilled shop has expertise in all the crafts, including electrical, control panel fabrication, instrumentation, and ASME-certified welding (orbital and U and R welding stamps for pressure vessel repair and fabrication).

Programming

Once fabrication is complete, the project is ready for programming. ProFlow's in-house specialists handle all program, including PLC and operator-interface programming, which may include interfacing with data acquisition, historians, DCSs, and other subsystems.

Testing & Documentation

When programming is complete, the unit moves to our large, on-site test facility, where it is fully tested to ensure that the system operates as designed. A complete documentation package, including drawings, parts list, weld maps, installation/operation manuals and test results, is prepared.

