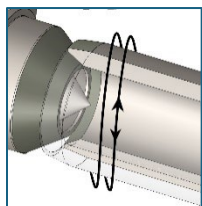
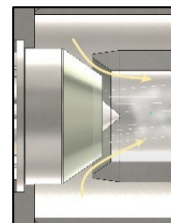


OptiShear™ CT Auto Drive System

Automated Slurry Gap Control for High-Solids Starch Processing

The OptiShear™ Shear controller is a powerful enhancement for C-Series Jet Cookers, specifically designed for sweetener plants that utilize wet milling and process high-solids starch slurries. Also, it is well suited for ethanol plants with variable slurry flows looking to automate their processes. In these applications, precise control of slurry pressure drop across the jet is essential for consistent cookout and plant performance.



Uniform, Controlled Slurry Gap

The ProSonix C-Series Jet Cooker features an adjustable Condensing Tube (CT) that creates a narrow, uniform gap between the CT and the steam nozzle. As the starch slurry enters this gap, it forms a thin ribbon, ensuring maximum steam exposure for effective heat transfer. By adjusting the CT's position relative to the steam nozzle, operators can also fine-tune slurry pressure drop, helping to reduce uncooked starch and enzyme consumption.

Fully Automated Operation

Manual gap adjustments are replaced with automated, electrically driven control, operated directly from the plant's Distributed Control System (DCS). This allows for real-time, hands-free optimization of the cooking process.

- Remote Auto-Positioning: Enables precise, remote slurry gap adjustment through the DCS.
- Variable Pressure Drop: Adjust CT position to optimize pressure drop, improving conversion efficiency and product consistency.

Advanced Flow and Mechanical Design

- True Coaxial, Radial Flow: The condensing tube and steam nozzle are perfectly aligned creating a 360° uniform flow path for even steam distribution and thorough mixing.
- Threaded Engagement: The CT is adjusted via a threaded mechanism that provides precise, repeatable control and evenly distributes internal wear, extending equipment life.
- Stable Support System: Multiple bearing surfaces support the CT, eliminating unwanted movement and ensuring long-term mechanical stability.

Seamless Integration and Control

- AC Motor Drive: High-turndown gear drive offers reliable operation and low maintenance.
- Forward/Reverse Control: Operated via the plant's DCS
- 4–20 mA position feedback for precise monitoring of tube position.
- Non-Proprietary Interface: No special software required—easily integrates with existing plant control system.

Key Benefits for Sweetener Plants

- Automated slurry gap control for consistent, reliable operation
- Maximized steam exposure for improved cooking of high-solids starch slurries
- Reduced enzyme usage and minimized uncooked starch
- Uniform 360° radial flow ensures even heating and thorough mixing
- Extended equipment life and lower maintenance due to even wear and robust design
- Simple integration with existing control systems for remote operation and monitoring



Figure 2
PSX Jet Cooker
with OptiShear

Upgrade your C-Series Jet Cooker with the OptiShear™ system to achieve precise, automated, and efficient starch processing—improving reliability, performance, and product quality across your sweetener operation.