

McCannalok Valves Improve Safety and Productivity in Sugar Mill Evaporator



KEY RESULTS

- > Significantly improved safety — protecting the lives of operation & maintenance personnel.
- > Eliminated valve steam leaks — resulting in reduced downtime and lower operating costs.
- > Reduced maintenance costs by more than 70%.
- > Saved space and weight with each valve — resulting in general plant improvements and worker mobility.

BRAY SOLUTION

Application	Evaporator Isolation
Valve	Series 41R High Performance Butterfly Valve
Size	NPS 30 36 42 48 54
Body	Phosphatized Ductile Iron
Operator	Gear Operator

APPLICATION

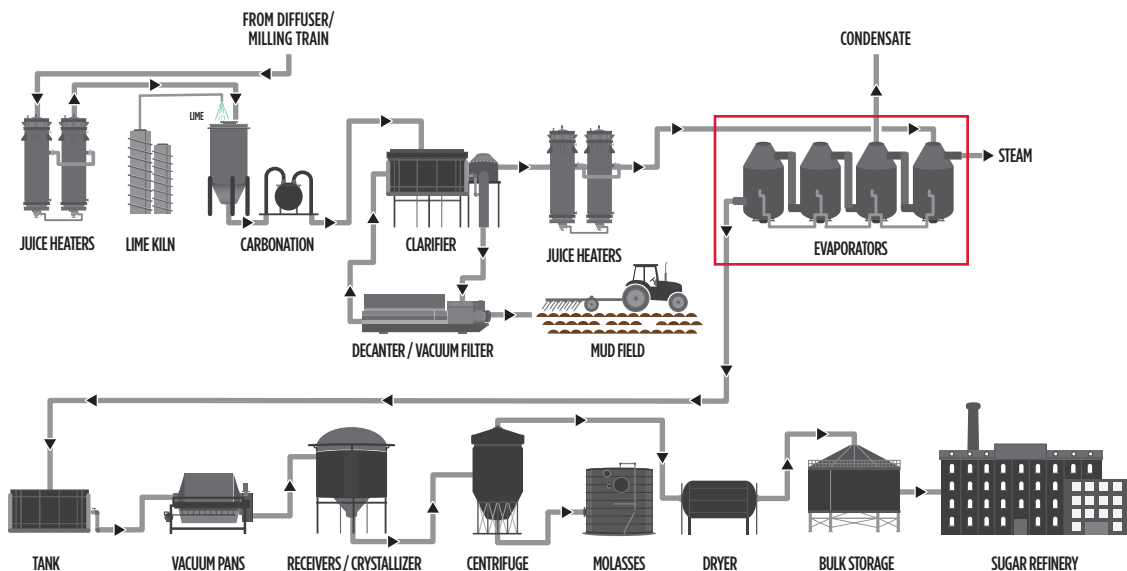
Block valves for evaporators at one of the largest sugar mills in Colombia.

Colombia is one of few countries where sugar production takes place throughout the entire year. Continuous service is critical to profitability of the plant — demanding reliable valve operation during the entire production cycle.

This customer was investing in an Energy Saving Project for its Evaporators, to block vegetable gases towards the warmup equipment. A total of twenty-one replacement valves would be needed to complete the project.



TYPICAL SUGAR PROCESSING APPLICATION



CHALLENGE

Maintenance and cleaning procedures for evaporators require **zero leakage** sealing to prevent accidents. This sugar mill was using angle valves, which were presenting serious safety concerns and operational challenges. The angular valve design, with three axes, allowed frequent steam leakage to the environment — endangering operator's lives, and causing significant profit losses. Leak repairs required stopping steam production, which was only possible twice a year — meaning known leaks could continue un-repaired for months.

Other drawbacks of the angle valves included:

- > No indication of valve position, increasing possibility of over/under travel.
- > Up to 3 mechanical operators were used per valve, requiring extra space and weight.
- > Specialized external service staff was required for annual maintenance.

SOLUTION

The main objective of the sugar mill was to guarantee the safety and integrity of operations & maintenance personnel, without halting the steam production process. As cleaning and maintenance procedures were done every 15 days, high-quality, reliable valves with **zero leakage** were required.

Bray recommended the McCannalok Series 41R high performance butterfly valve, which was designed specifically for the sugar industry. Key valve features for this application include:

- > Designed to handle steam applications, such as evaporators.
- > Lightweight & cost-effective.
- > Guaranteed **zero leakage** shutoff through more than 100,000 cycles.
- > Simplified field maintenance — requiring no specialized external staff.
- > Shared components with standard Series 41 valves reduced the need for special repair inventory.
- > Simple rotary automation, with minimal components required.

RESULTS

The customer installed twenty-one McCannalok S41R valves in varying sizes, and to date, they have demonstrated excellent performance. During more than five years of operation, only **one valve** has required inline maintenance.

Benefits of the McCannalok S41R valves over previously installed valves include:

- > Eliminated steam leaks.
- > Required only one gear operator, instead of the previous three.
- > Space and weight savings simplified installation and maintenance.
- > Eliminated external staff requirements for maintenance procedures.

The results have greatly improved plant operations, including:

- > Significantly improved safety — protecting the lives of operation & maintenance personnel.
- > Eliminated valve steam leaks — resulting in reduced downtime and lower operating costs.
- > Reduced maintenance costs by more than 70%.
- > Saved space and weight with each valve — resulting in general plant improvements and worker mobility.



McCannalok Series 41R installed in sugar mill operation.



UPDATE

Based on the excellent performance of Bray's McCannalok S41R valves, the customer is currently evaluating a project to automate the valves with Bray S98 Scotch Yoke Pneumatic Actuators.



To learn more about Bray flow solutions for the sugar industry, visit BRAY.COM.