

Sugarcane Refinery Improves Operational Run Time

CUSTOMER

One of the largest sugarcane refiners in the United States.

BRAY AUTOMATION PACKAGE

Application	Switching valves on mud clarifiers
Valve	S41 High Performance Butterfly Valve (8 and 10 inch)
Actuator	S98 Pneumatic Scotch Yoke Actuator (12E2)
Accessories	S5A/S5B Valve Status Monitor
Performance	Over 350,000 cycles with Zero Leakage



Bray automation solutions performed continuously for more than 350,000 cycles in the harsh environment.

CHALLENGE

The processing of sugarcane into sugar is done in demanding environments — exposing valves, actuators and accessories to elements such as dust, dirt, humidity, rain, and ultraviolet rays.

One of the largest sugarcane refiners in the United States — a Bray customer — has been using our Series 41 high performance butterfly valves in their facility. The valves have served their needs well, but were being actuated by a competitor’s product, which was repeatedly failing. The high-cycle environment — cycling every 55 seconds — demanded higher reliability for sugarcane processing. A variety of production-halting actuator problems plagued our customer: sealing failure, bearing wear-out, spring breakage, springs losing tension, mounting and drivetrain component failure, and fatigue failure.

SOLUTION

The actuators previously being used apparently could not meet minimum requirements for endurance, mandated by actuator standard EN-15714-3. Based on the quality and success of the installed Bray valves, our customer replaced seven of their existing actuators with Bray Series 98 pneumatic scotch yoke actuators. The Bray actuators performed continuously for the entire duration of the sugar campaign, which lasts between 8 to 10 months.

RESULT

The demanding sugarcane harvest season requires uninterrupted valve and actuator operation for up to 350,000 cycles. The seven Bray S98 actuators were inspected at the end of the first season, after accumulating more than 350,000 cycles. **The results showed that the Bray actuators met all operating challenges without any performance degradation — far exceeding all expectations.**

The industry leak acceptance level for this product is 200 Nmm³ per second. Previously, client production had shut down from leaks — **but Bray’s actuator, after nearly double the operational time, had zero leakage** — resulting in no production shut downs.

For their next production season, the customer ordered seven more actuators for their plant, doubling their total purchase of the Series 98 pneumatic scotch yoke actuator. In addition, they have started replacing competitor switchboxes with Bray S5A & S5B models. With over 50 competitor actuators remaining, the customer intends to replace them, as they fail, with complete packages of Bray actuators and switchboxes.

For information on the S98 actuator, or our full line of flow control solutions, visit BRAY.com